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THESIS

**PERSONAL PREPAREDNESS IN AMERICA:
THE NEEDLE IS BROKEN**

by

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June 2015

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For decades emergency managers have strived to educate the American public on how to prepare for disasters. Yet many Americans are still not prepared, at least as preparedness is defined by our nation's emergency management community. If the standard approach that the emergency management community has used for the last several decades is flawed, then the needle might not simply be stuck. It may, along with the entire system, be broken. Perhaps the problem is not just with the needle, which is simply measuring ac-tion or inaction, but with the actions themselves and the messages used to promote them. This thesis explores whether the actions individuals are asked to take are reasonable based on identified risk, and practical and sustainable based on barriers such as income and life-style. In addition, are the crafters of the message cognizant of the importance of sense-making on how an individual may choose to act based on the way he or she senses and responds to an incident, as well as the personal perception of self? Recent Federal Emer-gency Management Agency preparedness surveys and public education campaigns ad-dress the need for long-term resiliency over simple actions but may not go far enough to affect lasting change in behavior.

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PERSONAL PREPAREDNESS IN AMERICA:
THE NEEDLE IS BROKEN

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ABSTRACT

For decades emergency managers have strived to educate the American public on how to prepare for disasters. Yet many Americans are still not prepared, at least as preparedness is defined by our nation's emergency management community. If the standard approach that the emergency management community has used for the last several decades is flawed, then the needle might not simply be stuck. It may, along with the entire system, be broken. Perhaps the problem is not just with the needle, which is simply measuring action or inaction, but with the actions themselves and the messages used to promote them. This thesis explores whether the actions individuals are asked to take are reasonable based on identified risk, and practical and sustainable based on barriers such as income and lifestyle. In addition, are the crafters of the message cognizant of the importance of sense-making on how an individual may choose to act based on the way he or she senses and responds to an incident, as well as the personal perception of self? Recent Federal Emergency Management Agency preparedness surveys and public education campaigns address the need for long-term resiliency over simple actions but may not go far enough to affect lasting change in behavior.

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LIST OF ACRONYMS AND ABBREVIATIONS

AZEIN	Arizona Emergency Information Network
CAL-EMA	California Emergency Management Agency
CEA	California Earthquake Authority
CDC	Center for Disease Control
CBRNE	chemical, biological, radiological, nuclear, high yield explosive
CPR	Citizen Preparedness Review
DHS	Department of Homeland Security
DHSEM	Division of Homeland Security and Emergency Management
EMA	emergency management agency
EMD	emergency management division
FEMA	Federal Emergency Management Agency
FOUO	for official use only
GEMA	Georgia Emergency Management Agency
MEMA	Maryland Emergency Management Agency
NIFC	National Interagency Fire Center
NOAA	National Oceanic Atmospheric Administration
NHTSA	National Highway Traffic Safety Administration
NFPA	National Fire Protection Association
OSPREY	Operational and Situational Preparedness for Responding to an Emergency
PDF	portable document format
SNRA	Strategic National Risk Assessment
UCLA	University of California, Los Angeles
U.S.	United States

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EXECUTIVE SUMMARY

Definition of Insanity: Doing the same thing over and over again and expecting different results.

—Albert Einstein

Every day, somewhere in the United States, someone is recovering from a disaster. While the number of declared disasters dropped in 2014 to 45 presidential declarations and six federal emergencies (Federal Emergency Management Agency [FEMA], 2104), for many Americans, natural or human caused disasters are nearly an annual occurrence.

Federal Emergency Management Agency (FEMA) Administrator Craig Fugate has been clear about the importance of personal preparedness on the nation's ability to respond to catastrophic disasters. Fugate was blunt at a July 2009 Congressional hearing, telling the subcommittee on Economic Development, Public Buildings and Emergency Management, "Every family that fails to take even the most basic preparedness actions…is a family that will pull responders and critical resources away from those who truly need such assistance. …" (*Post-Katrina*, 2009, pp. 10–11).

The problem this thesis explores is why, after millions of dollars and years of public campaigns, many Americans are not prepared for disaster, at least as preparedness is defined by FEMA and our nation's emergency management community. Perhaps the problem is not just with the receiver of the message. Could the problem also be with the message itself? Are the actions the public is asked to take practical based on barriers, such as income and lifestyle, reasonable based on identified risk, and reflective of personal perception of self and how an individual may choose to act based on the way he or she senses and responds to an incident?

The research for this thesis began with several assumptions.

- Current preparedness campaigns seem to imply that once the action is taken, the individual is prepared yet the investment in effort and money may be significant.
- To achieve the desired outcome, the message must be redefined to ensure the actions being asked are reasonable, sustainable, and realistic.

- The public must understand the message, believe the actions requested are valid, and be able to act appropriately for the overall preparedness outcome to be achieved.

- The current preparedness campaigns do not appear to changing long term behavior which will lead to the desired outcome. That is, a more resilient population.

- If the standard approach the emergency management community has used for the last several decades is flawed, then the needle might not simply be stuck. It may, along with the entire system, be broken.

- Perhaps the problem is not just with the needle, which is simply measuring action or inaction, but with the actions themselves and the messages used to promote them.

Using a modified content analysis of the standard preparedness messaging along with specific survey questions from four FEMA surveys allowed the researcher to study the efficacy of the current personal preparedness messaging. A further examination of preparedness messaging within the contexts of the Cynefin framework and the positioning theory allow for an analysis of how those models may influence acceptance and action.

Overall, the number of individuals prepared for disaster remains stagnant. While the surveys are valuable, they measure personal preparedness based on a very specific set of actions defined by government leaders. Some of these actions may be universally desired and common to every citizen in every part of the country. However, some may not be appropriate or logical given the area's risk or capacity of the individual. In those cases, the survey respondent may have determined the cost of preparedness as it relates to a specific action is not justified. What may be perceived by officials as barriers, may in fact be rational decisions based on understanding of threat and the perceived cost to benefit ratio of preparedness. Measuring outcome as opposed to actions may require a different tool that considers how an individual may choose to act based on the way he or she senses and responds to an incident and how the assumed position a person takes in a situation will influence their action.

The researcher also looked at personal preparedness from the frame of positioning theory, which looks at the roles and rights, duties, and responsibilities that individuals assume based on their perceived or actual position in the world. In a 2009 article published

in *Theory and Psychology*, "Recent Advances in Positioning Theory," by Harre, Moghaddam, Pilkerton, Cainie, Rothbart, and Sabat, the authors explored new applications of the use of positioning theory to explain interpersonal encounters. Based on this theory, individuals can choose, or be placed in, the role of victim or survivor. That placement will then influence an individual's perception of his or her rights as well as responsibilities (Harre, Moghaddam, Pilkerton, Cainie, Rothbart, and Sabat, 2009).

The Cynefin framework offers another way to look at the public's receptiveness of the personal preparedness messages. Developed by David Snowden, the Cynefin framework organizes situations into five distinct domains, based on the correlation between cause and effect (Snowden & Boone, 2007). The five domains are simple, complicated, complex, chaotic, and disorder. Snowden advances that this model addresses differences in ontology (what is) and how that interacts with epistemology (how we know) and phenomenology (how we experience) (Snowden, 2012). The positioning theory and the Cynefin framework both may provide significant insight into how to individuals receive and act on messages.

Millions of dollars have been spent trying to convince members of the public to take responsibility for their personal preparedness. Regardless of the approach taken, the percentage of individuals and families that appear to be prepared for disaster has remained relatively stagnant, resulting in the analogy that the needle is stuck. Joe Becker, from the American Red Cross suggested the challenge is to get the needle moving on the percentage of those who are prepared (*Statement*, 2009, p. 4). FEMA Administrator Craig Fugate has said that families who fail to take basic steps to prepare for disaster pull responders from those who in critical need of help (2009, pp. 10–11). Garry Briese argues that the bar for preparedness is too high and personal preparedness should be refined to those actions most important to the outcome (2010).

Ultimately, this researcher identified six findings based on the initiating assumptions. First, successful public safety campaigns, such as "stop, drop and roll" and "click it or ticket," generally require a low investment in cost and time and have a clear and compelling negative outcome if the action is not taken. The current preparedness actions require an investment in time—to acquire knowledge, develop a plan, prepare a kit—and money

to purchase and store the items for a kit. To be effective, both the plan and kit must be maintained.

Second, with a few exceptions, researchers agree that understanding and agreeing with risk is a driving factor in an individual's desire to be personally prepared. Some jurisdictions, such as California, are using technology to help their residents understand the threats and risks of the community. It is past time for the emergency management community at large to recognize that threats and risks are not universal and one generic message is not sufficient.

Third, positioning theory advances that language not only communicates, but shapes the way individuals act based on how they "position" themselves relative to the language used (Davies & Harre, 2007, p. 2). FEMA Administrator Craig Fugate's attempt to reframe victims of disasters to survivors is consistent with this concept of positioning theory. By positioning individuals impacted by disaster as survivors, FEMA is helping them assume the responsibility to be accountable for their own survival, as well as an implied duty to help others. By assuming the role of survivor, people become not only enablers in their own response and recovery but allow government resources to focus on those who are positioned, regardless of cause, as victims.

Fourth, while the surveys are exhaustive, they measure personal preparedness based on a very specific set of actions defined by government leaders. Some of these actions may be universally desired and common to every citizen in every part of the country. However, some may not be appropriate or logical so the survey respondents may have determined the cost of preparedness as it relates to a specific action is not warranted or justified. What may be perceived as barriers, may in fact be rational decisions based on understanding of threat. According to a report released by FEMA in 2013, the percentage of Americans who have taken actions to prepare remains largely unchanged since 2007 (FEMA, 2013, p. 1). Knowing how to prepare and expense of preparation continues to be perceived as barriers by 25 percent of those surveyed (2013, p. 12).

Fifth, the Cynefin theory suggests that individual preparedness may mistakenly be framed as simple—one problem, and one right answer. However, some actions, such as

preparedness kits or plans may morph and become complicated, with many potential solutions. During disasters, the availability of resources, capabilities, understanding, and history of a potential threat may move an individual response into the complex domain with many known and unknown solutions with no right answer immediately evident.

Finally, a 2008 Columbia University report suggests that a fundamental lack of trust that loved ones will be protected must be resolved if the disconnect between evacuation plans and individual action is to be eliminated (Redlener, Grant, Abramson, & Johnson, 2008, p. 6). Even with known threats, the surveys indicate high levels of reluctance to evacuate, particularly if the respondent is unsure that her or his children or loved ones would be protected (2008). Each of these findings points back to last two hypotheses: if the needle is broken, perhaps the problem is with the actions the public is asked to take.

As the emergency management community continues to challenge the public to prepare, there are several recommendations that may encourage a more resilient population. Reframing what preparedness looks like, focusing on outcomes, rather than actions and looking for new ways to include the community in the conversation may prompt new ways to prepare for disasters. Rethinking how preparedness is measured and conducting studies on whether actions actually effect outcome will allow more refinement of the message and rigor to the conversation. Finally, recognizing personal choice and planning for action, as well as inaction, will allow emergency managers to better prepare for the needs of their populations.

The findings led the researcher to six recommendations.

Reframe the Concept of Preparedness

A disaster kit, prepackaged and stored away to be only used in a disaster is not practical or sustainable action for many Americans. It is costly and takes time, attention, and desire to maintain. Reframing the requirement away from a disaster kit to one that focuses on the ability to sustain self and family for 72 hours with supplies currently on hand may be far more achievable for most Americans. For instance, pantry stocked with canned goods and daily supplies that can be opened and eaten cold if necessary may be a better option than a packaged emergency supply kit loaded with Spam and cans of tuna.

The most effective preparedness solution for individuals and families challenged by lack of money or storage may be to identify a nearby location, either with family or friends, where they can safely weather the storm. Some campaigns and approaches are beginning to look for alternate ways for individuals to be prepared, relying less on the kit concept and more on an outcome of preparedness, whatever that looks like.

Focus on the Outcome Rather Than Actions

The steps to preparedness—get a kit, make a plan, be informed, be involved—simple solutions to a relatively known problem become far less important. A diverse and dynamic set of flexible solutions created by the stakeholders is what is needed in this complicated and complex environment, ultimately leading to the desired outcome: a resilient society.

Create Opportunities for Dialogue with Impacted Individuals with no Preset Outcome

Communication with the public, as opposed to emergency managers and professional communicators, may lead to innovative ideas that meet the needs in non-traditional ways.

Refine Personal Preparedness Surveys to Allow for Measurement of Alternate Ways to Prepared May Actually Result in a More Prepared Individual

While it may be valuable to ask the standard question about a preparedness kit set aside to be used only during disaster, it is important to probe the negative responses to get a more accurate level of preparedness. Asking questions about stored food not in a kit or the ability to access stored water in other areas of the home not only measures a different type of preparedness, it moves the discussion about preparedness in new and equally valid directions.

Conduct Post-Disaster Studies of the Efficacy of Personal Preparedness

The author could find no studies on whether being prepared makes a family more resilient or, as just more comfortable. There appears to be no empirical evidence appears to support the common assumption that when the waters rise, the wind blows, or the earth shakes, someone who "has a kit, a plan and is informed" has a greater chance of survival and successful recovery than his or her neighbor, who does not. Emergency management

websites and publications seem to posit that personal preparedness pays dividends in lessened impacts and faster recovery; however, there do not appear to be readily available post-disaster statistics to validate that claim.

Finally, Consider That Perhaps the Needle Has Moved as Far as It Can

Maybe the needle is stuck on half full because that is all the juice there is. Perhaps it is time to recognize that those who can are preparing, although perhaps not to the standard the government proposes. Some of those who are not prepared may intentionally be choosing to refuse that role. Others may be placed, by choice or circumstance, in the victim role and may be unable to prepare. Emergency preparedness campaigns should continue, albeit with a reframed message that better reflects practical, sustainable, and risk appropriate actions, but it may be time to stop obsessing over the lack of preparedness. While the emergency management community can continue to march to the drumbeat of "get a kit, make a plan, be informed," it must recognize that many may choose to ignore that beat and march instead to their own.

Conclusion

As the frequency and cost of disasters increases, a clear understanding of and agreement on the desired outcome of preparedness is more important than simply measuring kits and plans. There are many roads to resiliency; encouraging multiple paths may lead to a stronger, sounder, more resilient solution that driving everyone down the same highway. At the end of the day, the fact that all get to the final destination is what is important; how they get there is negotiable.

List of References

Briese, G. (2010). The four essentials of life-communications, transportation, power and water. Presented at The EIIP Virtual Forum. Retrieved on November 5, 2012, from www.emforum.org/vforum/Four Essentials.pdf

Davies, B. &. Harre, R. (1990). Positioning: The discursive production of selves. *Journal for the Theory of Social Behavior.* 20 (1), pp. 43–63. Retrieved February 22, 2015, from http:www.massey.ac.nz/~alock/position/position/htm

Federal Emergency Management Agency. (2013). *Research insights to increase individual, organizational, and community action.* Washington, DC: Author.

Post‑Katrina: What it takes to cut the bureaucracy and assure a more rapid response after a catastrophic disaster before the House Committee on Transportation and Infrastructure, Subcommittee of Economic Development, Public Buildings and Emergency Management U.S. House of Representatives (2007) (statement Fugate, Craig). Retrieved November 10, 2010, from http://transportation.house.gov/Media/file/Economic%20Development/20090727/Fugate%20Testimony.pdf

Redlener, I., Grant, R., Abramson, D. & Johnson, D. (2008). *The 2008 American Preparedness Project: Why parents may not heed evacuation orders & what emergency planners, families and schools need to know.* New York: Columbia University Mailman School of Public Health.

Statement before the Committee on Transportation and Infrastructure, Subcommittee on Economic Development, Public Buildings and Emergency Management (2009) (statement of J. Becker). Retrieved October 30, 2010, from http://transportation.house.gov/Media/file/Economic%20Development/20090727/Becker%20Testimony.pdf

Snowden, D. (2012). The origins of Cynefin. Retrieved February 27, 2015, from http://cognitive-edge.com/uploads/articles/The_Origins_of_Cynefin-Cognitive_Edge.pdf

Snowden, D. & Boone, E. (2007). A leader's framework for decision making. *Harvard Business Review.* Retrieved from https://hbr.org/2007/11/a-leaders-framework-for-decision-making

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I.   PERSONAL PREPAREDNESS: IS THE NEEDLE STUCK?

> Definition of Insanity: doing the same thing over and over again and expecting different results.
>
> —Albert Einstein

A.   INTRODUCTION

Every day, somewhere in the United States, someone is recovering from a disaster. According to the Federal Emergency Management Agency (FEMA), in 2011 there were 99 federally declared disasters impacting 45 states (Federal Emergency Management Agency [FEMA] 2014). That same year, there were another 29 federal emergency declarations issued for emergency response efforts and debris removal, and countless other state and local declarations that did not rise to the level of a federal disaster (2014). The number of declared disasters dropped significantly in 2014, with only 45 presidential declarations and six federal emergencies (2104). However, for many Americans, natural or human caused disasters are nearly an annual occurrence. In 2014, there were 2,106 wildfires of which 33 received a FEMA fire declaration (2014). According to the National Interagency Fire Center (NIFC), the federal government spent $1,522,149,000 on fire suppression in 2014. This figure does not include federal, state, or local recovery costs or private insurance and unreported loss (National Interagency Fire Center [NIFC], 2104). Hurricane season along the Gulf Coast and eastern U.S. kicks off every year on June 1 with exhortations for residents to stock up on food and water, check the hurricane shutters and know when, where, and how to evacuate (National Oceanic and Atmospheric Administration [NOAA], n.d.).

It seems like every week, the media report a new disaster that has destroyed homes, forced evacuations, or left hundreds without power and critical resources. Yet, despite the regularity and frequency of disasters and the countless websites, brochures, books, and presentations devoted to educating the American public on how, when, and why they should prepare, many Americans are still unprepared for disaster. According to a 2012

FEMA National Survey, change in the number of individuals taking preparedness actions has remained relatively stagnant since 2007 (FEMA, 2009).

By any measure, Hurricane Katrina was catastrophic. On August 27, as Hurricane Katrina spiraled towards the Gulf Coast, New Orleans Mayor Ray Nagin began issuing mandatory evacuation orders for specific areas of the city. On Sunday, he issued a mandatory evacuation order for all of New Orleans (Russell, 2005). By the time the hurricane made landfall, nearly one million residents had evacuated the city, but left behind were approximately 100,000 people, many with no access to transportation (Tate, 2010). Their only options were to rely on the city's evacuation plan, make their way to a government shelter, or attempt to weather the storm in whatever shelter they could find (Tate, 2010). When Hurricane Katrina finally stormed ashore, it ravaged the Gulf Coast, devastating areas of Mississippi, swamping New Orleans, leaving thousands of residents homeless, and killing close to 1,850 people across five states. More than 1,500 people in Louisiana lost their lives as a result of Hurricane Katrina, and the majority of those were in New Orleans (Tate, 2010). The world watched as families perched on roofs, pleading for rescue while residents of the New Orleans' Ninth Ward wandered debris clogged streets that resembled a warzone. The cumulative impact of poor governmental planning and lack of personal responsibility forced 30,000 people to take shelter in a leaking sports arena with no electricity and failed plumbing. Another 19,000 took shelter in a convention center with no stored food, water, or medical supplies or planned security (Tate, 2010).

One could reasonably conclude that residents of greater New Orleans should be well aware of their risk for flooding. With nearly 50 percent of the city below sea level, New Orleans is bordered on three sides by water with Lake Pontchartrain to the north, Lake Borgne to the east, and the Mississippi River winding around the south (Tate, 2010). Catastrophic hurricanes are not new to the Louisiana coast. For example, in 1909, the Grand Isle Hurricane killed almost 400 people and caused millions of dollars in damages (Devlin, 2011). Fifty years later, Hurricane Betsy caused Lake Pontchartrain to overflow and spill into New Orleans. Original estimates, later proved incorrect, caused this hurricane to mistakenly be considered the first to cost more than a billion dollars in damages, spawning the nickname "Billion Dollar Betsy" (Absolute Astronomy, 2011).

In April 2005, FEMA issued an update to previously released national planning scenarios. Among the 15 scenarios, there were only two natural disasters, a 7.5 or greater magnitude earthquake occurring in a major metropolitan area, and a category 5 hurricane making landfall in a highly populated area (FEMA, 2005). The hurricane planning scenario projected 1,000 fatalities; Hurricane Katrina resulted in 1,500 fatalities in New Orleans alone. The scenario projected one million residents would evacuate and 150,000 would seek safe shelter; however, Hurricane Katrina drove nearly one million residents from New Orleans and caused approximately 100,000 to seek, if not safe shelter, some form of shelter (Tate, 2010). Finally, the scenario called for billions of dollars in damage and years of recovery. Hurricane Katrina caused $81 billion in damages (Tate, 2010) and more than nine years later, New Orleans is still recovering ("Nine Years Post- Katrina," 2014). In spite of the city's geography, government planning, and history of extreme weather events, many New Orleanians were not prepared for an event with historical precedence. The citizens of New Orleans are not alone, however, in their propensity to ignore the obvious and fail to prepare for a known hazard.

B. PROBLEM STATEMENT

Studies indicate that in spite of natural disasters such as Hurricane Katrina, wildfires, the annual spate of floods tornados, blizzards, and ice storms, too many Americans are still unprepared for disaster. A survey conducted by the American Red Cross in 2009 indicates that while approximately 80 percent of Americans have taken some steps to become better prepared, only 12 percent are prepared to a reasonable level, as defined by the Red Cross (DeFrancis, 2009).

FEMA Administrator Craig Fugate has been clear about the importance of personal preparedness on the nation's ability to respond to catastrophic disasters. Fugate was blunt at a July 2009 Congressional hearing, telling the subcommittee on Economic Development, Public Buildings and Emergency Management, "Every family that fails to take even the most basic preparedness actions…is a family that will pull responders and critical resources away from those who truly need such assistance…" (*Post-Katrina*, 2009, pp. 11–12). The problem this thesis intends to explore is why, after millions of dollars and years of public

campaigns, many Americans are not prepared for disaster, at least as preparedness is defined by FEMA and our nation's emergency management community.

C.   RESEARCH QUESTIONS

Perhaps the problem is not just with the receiver of the message. Could the problem also be with the message itself? This leads to the following research question: Are the actions the public is asked to take practical based on barriers, such as income and lifestyle, reasonable based on identified risk, and reflective of personal perception of self and how an individual may choose to act based on the way he or she senses and responds to an incident?

D.   HYPOTHESES

This research begins with the assumption that the current preparedness message and the way message adoption is measured is inherently flawed. To achieve the desired outcome, the message must be redefined to ensure the actions asked are reasonable, sustainable, and realistic. The public must understand the message, believe the actions requested are valid, and be able to act appropriately for the overall preparedness outcome to be achieved. Current campaigns imply that the activities are largely "one and done." Build a kit, check. Make a plan, check. Determine how to evacuate, check. Each of these activities assume that once the action is taken, the individual is done preparing, at least until the plan or kit needs to be updated. Yet, what appear to be simple actions can require significant investments in effort and money.

Contrast this with the public safety campaigns often considered successful. The following examples are lost cost, low investment actions with a clear and compelling outcome. One example is the National Fire Protection Association's long running campaign "Learn not to Burn" has been a fire prevention educational tool in American for the last 40 years and has been credited with saving lives since the first year of its release (Cates & Milke, 2006). "Stop, drop, and roll" has become so common in American culture that it appears, without accompanying explanations, on popular television series such as *The Simpsons* and *Girlfriends* ("Stop, Drop and Roll," n.d.).

Another example is the National Highway Traffic Safety Administration (NHTSA) "Click it or Ticket" campaign couples strict enforcement and a clear message that seat belts save lives. According to NHTSA, the "Click it or Ticket" campaign is the most successful seat belt enforcement campaign in its history and credits the campaign with increasing seat belt usage by more than 10 percent (NHTSA, 2015).

Each of these successful campaigns involve clear messages with simple actions and compelling outcomes if the action is not taken. In the case of the NFPA campaign, the negative outcome is physical injury, and in the case of NHTSA's "Click it or Ticket" a punitive consequence is combined with the potential for increased injury if an accident occurs. These are actions that require a low investment in cost and time and have a clear and compelling negative outcome if the action is not taken. The current preparedness actions require an investment in time—to acquire knowledge, develop a plan, prepare a kit—and money to purchase and store the items for a kit. To be effective, both the plan and kit must be maintained. For areas with limited disaster history, the value of such actions may not be immediately evident, making the perception of need appear unwarranted.

The current preparedness campaigns do not appear to lead to the desired outcome, which is a more resilient population. The standard preparedness message expects public action while, with few exceptions, does not recognize the personal expense of time and money to implement and sustain the requirement. Recent FEMA preparedness surveys address the need for long-term resiliency over simple actions but may not go far enough to affect lasting change in behavior (FEMA, 2009).

If the standard approach the emergency management community has used for the last several decades is flawed, then the needle might not simply be stuck. It may, along with the entire system, be broken. Perhaps the problem is not just with the needle, which is simply measuring action or inaction, but with the actions themselves and the messages used to promote them.

E.   METHODOLOGY

This thesis uses a modified content analysis of the standard preparedness messaging along with specific survey questions from four FEMA surveys to study the efficacy of the

current personal preparedness messaging. A further examination of preparedness messaging within the contexts of the Cynefin framework and the positioning theory allow for an analysis of how those models may influence acceptance and action and, as a result, lead to a revised approach. Content analysis is a detailed, intentional study of a specific set of materials or work to identify common themes or patterns. In addition, content analysis is often done on forms of communication, which makes this an appropriate method to analyze preparedness messages (Prasad, 2008).

The intent of the content analysis is to frame if the actions individuals are asked to take are reasonable based on identified risk, and practical and sustainable based on barriers such as income and lifestyle. In addition, are the crafters of the message cognizant of the importance of sense-making on how an individual may choose to act based on the way he or she senses and responds to an incident as well as the personal perception of self?

The first step of this method was to analyze public messaging contained within the 50 state emergency management website pages focused on personal preparedness. Approximately 10 minutes was spent on each site. If the information could not be located in that amount of time, the researcher assumed that it either did not exist or was too difficult for most users to locate. In many cases, state websites had links to a preparedness guide that contained information such as state specific risk, planning tools, preparedness kits, special needs, pet care, and youth resources. In those cases, the guides were reviewed to determine if they met the above criteria. It should be noted the researcher is well aware that sites may have contained information that could not be easily located in 10 minutes, and the survey was not intended to imply that any specific sites are deficient.

The website reviews were based on 10 questions intended to identify common themes and patterns that outlined recommended actions, relative risk and recognition of barriers to compliance (e.g., age, income, and language). Each question could be answered with a yes or no although question 9 required a subjective determination on the part of the researcher. Questions 1 and 2 identified whether the site relied on the standard messages from FEMA's Ready.Gov (Q1) or used a different approach (Q2). Questions 3 and 4 focused on clear identification of specific risk (Q3) and whether preparedness messages are

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linked to identified risk (Q4). Questions 5–7 addressed barriers to action, and question 8 measured a sample of the website to determine readability based on a review using the Flesch-Kincaid readability grade level test. The Flesch Kincaid readability test uses word length and sentence length to determine the ease with which a sentence can be comprehended (Flesch-Kincaid readability tests, n.d.). Questions 9 and 10 look at innovative or particularly useful campaigns (Q9) and the extent to which new media is used to communicate the messages (Q10). The specific questions are listed in Chapter III.

The second step in the content analysis was to look at FEMA surveys. Since an initial survey in 2003, FEMA has sponsored four additional surveys in 2007, 2009, 2011, and 2012. All five surveys included questions designed to measure: the extent to which individuals are prepared for disaster; real or perceived barriers that may prevent individuals from preparing; the perception of vulnerability to disasters; and the demographic impacts on disaster preparedness.

The results of the 2007, 2009, 2011 and 2012 surveys were summarized in a document released by FEMA in 2013, Preparedness in America, Research Insights to Increase Individual, Organizational and Community Action (FEMA, 2009). Four topics were evaluated: preparedness kits; household emergency plans; warning systems, emergency evacuation routes and shelters; and barriers to action. Both the questions and the results were examined in relation to the research question:… *are the actions practical and sustainable based on barriers such as income and lifestyle, and reasonable based on identified risk?*

The final piece of content analysis looked at the positioning theory and the Cynefin framework, which offer additional methods to evaluate how and why people act. A review of the Cynefin framework and the positioning theory within the context of individual choice for action or inaction provided a valuable insight into personal perception of self and how individuals may choose respond based on how they frame themselves within a situation.

F. SIGNIFICANCE OF RESEARCH

This thesis will add to the existing body of literature by evaluating if the actions the public is asked to take are practical based on barriers, such as income and lifestyle; reflective of personal perception of self, and how an individual may choose to act based on the way he or she senses and responds to an incident; and reasonable based on identified risk.

There is significant amount of research on the demographics of who is prepared, to what extent they are prepared, and what might be motivating or preventing them from being prepared. Although some studies identify possible motivators to action, far fewer studies identify strategies that address and attempt to resolve some of those specific barriers. Understandable and actionable community specific risk assessments available to the public appear to be limited, and, to date, most preparedness campaigns focus on simple, generic actions rather than sustained, lifestyle changes.

There is a wealth of literature attempting to define why some Americans prepare themselves and their families for disaster and others do not. For the last several years, FEMA and the American Red Cross have relied on various iterations of a simple, three step message: get a plan, get a kit, and be informed. In spite of the relative consistency of the message and its delivery, a significant percentage of the public appears to disregard it, either through lack of motivation, lack of understanding, or other barriers that prevent action.

G. LIMITATIONS OF METHOD

The content analysis method has several limitations that prevent it from providing a definitive analysis of the efficacy of current practices of personal preparedness messaging. First, the website analysis was intentionally cursory, under the theory that if the information was not readily available, people may not spend significant time and effort attempting to locate it. In addition, only websites were reviewed, generally limiting the review to that information provided via the Internet. The exceptions to this limitation are the manuals and guides saved in a portable document format (PDF) for download by the viewer.

The author was unable to locate surveys, studies, or analyses that determine whether or not personal preparedness kits or plans really make a difference. No empirical evidence appears to exist that supports the common assumption that when the waters rise, or the wind blows, or the earth shakes, someone who "has a kit, a plan and is informed," has a greater chance of survival and successful recovery than his or her neighbor, who does not. Officials believe that personal preparedness pays dividends in lessened impacts and faster recovery; but there do not appear to be post disaster statistics, at least readily available, to validate that claim.

Finally, while the surveys are exhaustive, they measure personal preparedness based on a very specific set of actions defined by government leaders. Some of these actions may be universally desired and common to every citizen in every part of the country; however, some may not be appropriate or logical so the survey respondents may have determined the cost of preparedness as it relates to a specific action is not warranted or justified. What may be perceived as barriers, may in fact be rational decisions based on an understanding of threat.

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II. LITERATURE REVIEW

The only true wisdom is in knowing you know nothing.

—Socrates

The issue of personal preparedness has received significant attention over the past several decades, with a noticeable increase following the attacks on September 11, 2001 and in the aftermath of Hurricane Katrina. No one has espoused this need more forcefully than FEMA administrator Craig Fugate. In testimony before Congress and in presentations to state and local emergency managers and in media interviews, Fugate has been clear about the importance of personal preparedness on the nation's ability to respond to catastrophic disasters.

> …a recent survey found that only half of Americans have put together an emergency kit, and less than half—only 40 percent—have created a family emergency plan. I cannot emphasize enough just how problematic this could prove in a catastrophic environment, not only to the households but to the efficacy of the overall incident management effort. Every family that fails to take even the most basic preparedness actions, such as having sufficient water and nonperishable food to support the family for at least 72 hours, is a family that will pull responders and critical resources away from those who truly need such assistance… (*Post-Katrina*, 2009, pp. 10–11).

The business community also recognizes the criticality of a prepared population. In an April 2011 report issued by the Center for Infrastructure and Homeland Security, author Irma Clark focuses on personal preparedness as a key element of a strong workplace continuity of operations plan. She suggests that employee responsiveness (to the employer) following a crisis or disaster is contingent on the employee's level of personal preparedness prior to the disaster. An unprepared employee will be forced to choose between job and family and will likely choose family first (Clark, 2011).

The available literature on the level of personal preparedness and the barriers to preparedness is extensive. Surveys analyze who is prepared and why those who are not, do not prepare. Government reports try to identify what, or who, is to blame for the seeming lack of preparedness taken by Americans and posit solutions to encourage more to prepare.

Moreover, sociologist and psychologists theorize on why some prepare and others do not and if fear really motivates action. Meanwhile, a recent emphasis on engaging the whole community and promoting a culture of resilience has spawned new ideas and new literature on personal preparedness.

With such an abundance of information, narrowing the research to credible, relevant, and useful information is critical to this literature review. The research question this thesis intends to explore—are the actions the public is asked to take are practical based on barriers, such as income and lifestyle; reflective of personal perception of self and how an individual may choose to act based on the way he or she senses and responds to an incident; and reasonable based on identified risk—lead this literature review into four categories of review:

- Literature that educates or encourages preparedness actions through standard messages, campaigns, websites, and brochures.

- Survey instruments that measure current levels of personal preparedness, message acceptance, and action in relation to the questions asked.

- Literature that defines the barriers that may prevent individuals from receiving, understanding, or acting on personal preparedness message.

- Research into human behavior and dynamics using the positioning theory and Cynefin framework and how they might influence personal preparedness.

A. PREPAREDNESS MESSAGES, CAMPAIGNS, WEBSITES AND BROCHURES

Federal agencies, including FEMA and Health and Human Services, state and local emergency management agencies and major non-profit organizations, such as the American Red Cross, have spent millions of dollars on education campaigns designed to create a more prepared society. An Internet search conducted on February 21, 2015 sampled web results for three preparedness terms. The term "individual and family preparedness" returned more than 4.8 million hits, "personal preparedness" returned six million hits, and "personal preparedness challenges" 33.7 million hits. Many messages, regardless of their origin, rely on some variation of FEMA's simple, three-step message: "Get a kit, Make a

plan, be informed" (FEMA, 2015). The message on FEMA's website, Ready.gov, identifies in detail what a family kit should consist of, what family plans should contain, and what kind of information individuals should know about their state and their natural and manmade hazards (2015).

A review of 50 state websites revealed 43 follow the standard message found on Ready.gov with modifications for identified geographic threats or information for particular needs such as emergency preparedness for pets or the elderly. In some cases, the state website links directly to the Ready.Gov site with no modifications specific to location and overall, 35 websites provided a link to Ready.gov.

The current landscape of emergency public information campaigns is littered with preparedness messages that rely on a simple, three-step message—a message that, to date, has proved largely ineffective. While some state and local organizations are modifying their messages to engage more of their citizens in personal and individual disaster preparedness, the effort is sporadic and limited.

A review of most of these personal preparedness campaigns establishes that current messages tend to target a population literate enough to understand the threat and financially secure enough to invest time and resources in a stockpile of supplies. The messages are detailed and specific, listing everything one might possibly need during the first 72 hours of a disaster, from bottled water to baby wipes. They encourage the development of a family plan, a communications plan, an evacuation plan, and a pet plan. They assume a level of personal motivation and a willingness to accept the government's exhortations to be personally responsible. What they do not do, with few exceptions, is establish why these actions matter beyond "being prepared."

FEMA's new emphasis on the "whole community" may indicate a shift in its approach to personal preparedness. For instance, while the FEMA Ready.gov website still advocates building a kit, including locating disaster supplies in one or two containers, the new approach notes that these supplies are a collection of everyday items found in most households. Bottled water is still recommended as the primary way to meet the need of

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potable water for 72 hours, but there are also instructions on how to safely store water in two-liter bottles, an action that requires no or minimal financial outlay.

B. CURRENT LEVELS OF PERSONAL PREPAREDNESS, MESSAGE AC-CEPTANCE AND ACTION

The most significant literary source reviewed is government surveys and reports, which provide the closest picture of current levels of individual preparedness as well as the barriers to action. Since 2001, an array of national surveys have attempted to measure current levels of personal preparedness, message acceptance, and action. One of the first surveys to measure personal preparedness was sponsored by the newly formed Citizens Corps. This initial effort, conducted in 2003 by ORC Macro, a federal contractor from Maryland, was designed to provide a baseline on family and community preparedness. Using a telephone survey, the contactors contacted more than 2,000 adults living in the United States (excluding Alaska and Hawaii) and asked the respondents questions focused on four areas: household preparedness, training, neighborhood preparedness, and volunteer service. The responses were consolidated into general conclusions, which were then broken down into regional and demographic profiles. In recognition of the need to create a baseline to measure progress or decline, this survey proves a valuable standard from which to evaluate later surveys and studies (FEMA, 2003).

The Citizen Corps has conducted two additional surveys that attempt to refine the questions or focus on particular areas of personal preparedness. The survey results and subsequent analysis are published in citizen preparedness reviews that compile multiple preparedness surveys and reports into one document allowing for comparison and contrast while also affording the opportunity to assess different survey styles and approaches. The citizen preparedness reviews include surveys from Council for Excellence in Government, the American Red Cross, Harris Interactive, and the Columbia University's Mailman School of Public Health (FEMA, 2006, 2007, 2009).

These surveys provide a valuable means to assess current actions based on standard messages. From the first Citizen Corps survey in 2003 to the latest survey conducted in

2012, the questions have sought to identify whether individuals are hearing and understanding preparedness messages and, more importantly, acting on them. The Citizen Preparedness Reviews allow ready access to a variety of survey tools and results, offering an opportunity to compare and evaluate various surveys conducted by government and research organizations. The findings support the supposition that many Americans are not prepared for disaster and set the stage for the third area of sub-literature, the barriers that prevent action.

The results of the 2007, 2009, 2011, and 2012 surveys were summarized in a document released by FEMA in 2013, "Preparedness in America, Research Insights to Increase Individual, Organizational and Community Action." According to this report, the percentage of Americans who have taken actions to prepare remains largely unchanged since 2007 (FEMA, 2009, p. 5). Knowledge of how to prepare and expense of preparation continues to be perceived as barriers by 25 percent of those surveyed (2013, p. 12).

Recent surveys are beginning to identify the various barriers that limit Americans' level of personal preparedness, including individuals' difficulty receiving and understanding the preparedness messages and the physical, psychological, cultural, or other barriers that impede or prevent action. The surveys remain the most complete source of data on current levels of preparedness across the nation as well as the various impediments to individual actions but tend to be limited to measuring preparedness actions as determined by government.

C. BARRIERS THAT IMPEDE OR PREVENT ACTION ON PERSONAL PREPAREDNESS MESSAGES

National surveys, researchers, behavioral scientists, and practitioners are all beginning to address the reasons behind the public's reluctance to prepare. In 2003, the newly formed Citizens Corps began an effort to measure progress in personal preparedness. The first survey was intended to provide a baseline measurement of the public's knowledge, attitudes, and behaviors in relation to individual preparedness for disaster. In recognition of the need to create a baseline to measure progress or decline, this product proves valuable as a standard from which to evaluate later surveys and studies (FEMA, 2003). Since that

initial survey in 2003, four additional surveys have been conducted, 2007, 2009, 2011, and 2012.

All five surveys included questions designed to measure the extent to which individuals are prepared for disaster, real or perceived barriers that may prevent individuals from preparing, the perception of vulnerability to disasters, and the demographics impacts on disaster preparedness.

FEMA's *Citizen Preparedness Review* (CPR) issue 5 analyzed studies conducted between spring 2006 and fall 2007 and incorporated results from six major national studies and several state or regional studies, including the 2007 Citizens Corps Survey. The 2007 Citizen Corps Survey asked questions designed to determine how disaster preparedness differs by demographics, including age, education, gender, geography, religiousness, race, and income. Other surveys delved into the specific motivations that either encourage preparedness or inhibit action. The update indicated several conclusions, including: individuals may not be as prepared as they assume, levels of preparedness appear to differ based on geographical areas, evacuation preparedness (and willingness) is evolving, and there are both specific barriers as well as new factors that influence personal preparedness (FEMA, 2007).

Several of the survey results appear to support the concept that geographic risk may make a difference in an individual's willingness to engage in personal preparedness activities. Surveys included in FEMA's CPR, issue 5 indicate that areas with well-known, evident threats (such as San Francisco or Miami) have higher levels of personal preparedness than areas with lower levels of threat lending credence to the concept that understanding and agreeing with risk based on location and threat is a logical motivator to action (FEMA, 2007, pp. 10–12).

Several studies uncovered additional barriers that either impede or discourage emergency preparedness activities. As with previous surveys, respondents were queried about known barriers such as lack of concern, time, money or knowledge about what actions to take. The surveys assessed in CPR issue 5 also identified new barriers or contextual issues that affect individual willingness to prepare. These barriers include unwillingness to

abandon pets, the belief that nothing they can do will affect the outcome, lack of confidence in government response or trust in government recommendations, and, as noted earlier, the belief that their preparedness level is acceptable for perceived threat (FEMA, 2007, pp 14–15).

A study commissioned by the California Earthquake Authority (CEA) and the California Emergency Management Agency (Cal-EMA) supports the argument that an effective public messaging campaign may overcome certain barriers by reinforcing the point that recommended actions can reduce loss and suffering. The study, conducted by Harris Interactive, built on prior research led by sociologists Dr. Linda Bourque of the University of California, Los Angeles (UCLA) School of Public Health and Dr. Dennis Mileti of the University of Colorado at Boulder. This research on how and when to communicate to the public led to the recommendations Harris Interactive delivered to CEA and Cal-EMA, that the "development of an evidence-based standardized message to be delivered in a consistent manner over multiple channels, over long periods of time, via a coordinated campaign among various local, state and federal programs and agencies engaged in earthquake preparedness" (Harris Interactive, 2011, p. 1).

Using easy to understand language may also prompt more preparedness. The results of a U.S. National Adult Literacy Survey, discussed in a report prepared for the Plain Language Ad Hoc Committee of the Productivity and Quality Commission (DuBay, 2004), reinforce the importance for public communication to be written in clear and understandable English, at a grade level appropriate for the audience. The literacy survey indicated that more than 80 percent of adults read at or below the tenth grade level and notes that experts recommend most public documents be written at the seventh grade level (2004).

Although the Citizen Corps surveys do not address trust in government, several other surveys conducted by well-known institutions do. Since 2002, the Columbia University's National Center for Disaster Preparedness and the Children's Health Fund have teamed up to conduct annual surveys of public attitudes and personal preparedness. In addition to questions about personal and community preparedness, the surveys ask questions about confidence in the government and the respondents' willingness to evacuate. According to the 2007 report, the public confidence in the government's ability to respond as well

as provide accurate guidance remains low (Redlener, Abramson, Stehling-Ariza, Grant & Johnson, 2007, p. 2). The 2008 survey conducted by the National Center for Disaster Preparedness, indicated when children are involved, the trust level sinks to well below 50 percent. More than 60 percent of parents would ignore an evacuation order and go directly to their child's school (Redlener, Grant, Abramson & Johnson, 2008, p. 3). The survey questions focused on whether parents would heed evacuation orders and school evacuation plans or disregard them if they believe the plans do not provide adequate protection for their children. When parents with school aged children were asked, "If you were given an order to evacuate your home or place of employment during school hours" only 31 percent indicated they would follow the evacuation order and reunite with their children later. Additionally, 63 percent would ignore the order and get their children even if that action was in opposition to the school's plan or a community evacuation order. The report recommends that the disaster preparedness policy recognize the parent-child bond and address family unification as one of the primary principles of family disaster planning, and stresses the need to "… to plan with, rather than around, certain realities of human behavior" (Redlener et al., 2008, p. 6). The Columbia University report suggests that in spite of a significant emphasis on disaster preparedness, this fundamental lack of trust that loved ones will be protected must be resolved if the disconnection between evacuation plans and individual action is to be eliminated.

D.   BRINGING THE WHOLE COMMUNITY TO THE TABLE

In 2011, FEMA Administrator Craig Fugate launched a new concept that advocated ensuing the whole community is involved in planning and response. FEMA released a document describing the concept, "A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action" (FEMA, 2011). This document outlines the intent of the program and offers suggestions for implementation. Aimed primarily at the state and local emergency management community, the program recognizes "the importance of bringing together all members of the community to collectively understand

and assess the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities and interests" (FEMA, 2011). Through this approach, FEMA hopes to build a more effective path to a secure and resilient society.

The whole community concept suggests a philosophical shift away from a reliance on a standard set of actions to a recognition that to build a prepared society, we have to engage all members of the community, understand the needs and motivations of our citizens, build on what currently works in community engagement, and "move beyond the easy to looking at the real needs and issues a community faces" (FEMA, 2011, p. 7).

E.   PERSONAL VIEWPOINT INFLUENCES ACTION

Social psychologists suggest understanding the positioning theory may helpful as emergency managers encourage individuals to plan, prepare and be an active part of a community's response. A 2009 article published in *Theory and Psychology*, titled "Recent Advances in Positioning Theory," explored new applications of the use of positioning theory to explain interpersonal encounters. Based on this theory, individuals can choose, or be placed, in the role of victim or survivor. That placement will then influence an individual's perception of his or her rights as well as responsibilities (Harre, Moghaddam, Pilkerton Caimie, Rothbart & Sabat, 2009).

Positioning theory evolved out of role theory, a social psychological model that contends each person responds to situations based on his or her defined role (e.g., wife, student, child, and father). Within each role exists established behaviors that each person must fulfill to be successful within that assigned role. This theory posits that roles are static and generally not flexible. As such, people behave in a predictable fashion consistent with the role ("Role Theory," n.d.).

The challenge with role theory, according to Davies and Harre, in their article "Positioning: The Discursive Production of Selves," is that evaluating actions identified by "roles" is static and based on formal, ritualistic aspects (2007). They contend that how people position themselves may be a more reliable precursor to their actions than their static role. A key element in positioning theory is belief that language not only communicates but shapes the way individuals act based on how they "position" themselves relative

to the language used (Davies & Harre, 2007, p. 2). Craig Fugate, as director of the Florida Division of Emergency Management, and then as the Administrator of FEMA, understood this when he reframed those impacted by disasters from victims to survivors (Whitehead, 2009).

Discourse, or dialogue, creates a framework or narrative in which one positions himself or others. Davies and Harre assert there are two ways individuals get positioned into the narrative: interactive positioning and reflective positioning. In reflective positioning, the individual defines his or her own position; on the other hand, interactive positioning is defined by someone else. In both cases, the positioning may or may not be intentional (2007, p. 4). However, just as conversations shift and change based on input, an individual's position can flex based on how the dialogue changes the narrative and, therefore, where each player in fits into the storyline (2007, pp. 2–3).

Harre, in his September 2004 article "Positioning Theory," suggests that if roles as identified within the framework of role theory are relatively inflexible and static, then positioning theory is about how humans change their positions based on the transitory and conflicting nature of language. According to Harre, people use three primary conditions to create their basis for action. The first is admissible social acts, in particular the illocutionary force, in which the meaning of a phrase or word is based on who is using it, where it is used, and for what purpose. The second condition is the distribution of rights and duties. The third condition is the story line or narrative in which an individual participates. Harre believes that each of these conditions influence the other creating a positioning "triangle." The position assumed by an individual, in tandem with her rights and duties, will impact understanding of the illocutionary force of dialogue or message. These, in turn, may be influenced by the narrative or storyline of the event (2004, pp. 7–8). In addition, Harre posits that messages vary based on the context in which they are given, not just within the relationship of the sender and receiver, but the history of the practices and values of the message and language (2004, p. 5).

An article in the *Forum: Qualitative Social Research* by Francisco Tirado and Ana Galvez on the impact of conflict adds a different element to the concept of positioning

theory and personal preparedness (2007). They suggest that conflict can be an opportunity for change as opposed to the traditional view that conflict is negative. *Merriam-Webster's* online dictionary offers two definitions of conflict that inform the discussion on positioning theory. The "competitive or opposing action of incompatibles: antagonistic state or action (as of divergent ideas, interest or persons)" and "a mental struggle resulting from incompatible or opposing needs, drives, wishes or external or internal demands" ("Conflict," n.d.).

Tirado and Galvez posit that conflict is not inherently negative but rather can provide the opportunity to identify solutions and outcomes not immediately contemplated (2007). The two summarize the main characteristics of this positive view with four points:

- Conflict is an opportunity that can cause transformative change.
- Conflict must be analyzed within the social, cultural and situational context in which it occurs. As such, it is dynamic.
- Conflict is a complex situation that must avoid simplistic or monocausal explanations that attribute the conflict to a single, dominant factor.
- Effective conflict requires discourse (Tirado & Galvez, 2007 pp. 3–4).

If personal preparedness can be framed as a complex situation, analyzed within societal context, and openly discussed among the whole community, there may be opportunities for effective preparedness not yet identified. Recognition of and embracing the conflict may yield new ideas that transform the preparedness landscape.

F.   THE CYNEFIN FRAMEWORK: MAKING SENSE OUT OF DECISION MAKING

Another way to look at personal preparedness is through the lenses of a new construct, the Cynefin framework, initially developed by David Snowden as a knowledge management tool to help understand how informal networks allow more connectivity and easier integration of ideas and abilities than formal networks. Snowden has authored several pieces, both with and without co-authors, on the Cynefin framework. For example, Snowden wrote about the development of the Cynefin framework in a seven-part series called "The Origins of Cynefin," posted on his blog in 2010; the entire series can now be accessed

on the Cognitive Edge website. The series provides a "behind the scenes" look at how the framework evolved (Snowden, 2012).

After a decade of revision, his early work evolved into a Cynefin model that created four decision models:

- Known: sense-categorize-respond
- Knowable: sense-analyze-respond
- Unknowable: complex: probe-sense-respond
- Unknowable: chaotic: act-sense-respond (Snowden, 2012)

In another piece, Snowden and Cynthia F. Kurtz presented the Cynefin framework in their 2003 article, "The New Dynamics of Strategy: Sense-making in a Complex and Complicated World." They considered Cynefin a sense-making framework, a model that helps individuals give meaning to experience (Kurtz & Snowden, 2003).

In 2005, Snowden wrote an article for *Management Today*, "Multi-ontology sense making, a new simplicity in decision making," which resulted in the Cynefin framework model that is the standard today (2005). This revised model replaced known and unknowable with simple and complicated and was the model used for the article written by Snowden and Mary Boone for the *Harvard Business Review* in 2007 called "A Leader's Framework for Decision Making" (2007).

The Cynefin framework organizes situations into five distinct domains, based on the correlation between cause and effect. The five domains encompass simple, complicated, complex and chaotic. Disorder is the wild card, the center of the space with no primary relationship to the other four (see Figure 1). The movement between the domains is not linear; in other words, it does not have to flow from simple to complicated and so on. In fact, based on the situation, it is relatively easy to move from the simple domain directly into chaotic if the problems and issues are not addressed appropriately. Within the Cynefin framework, the simple domain is characterized by stable situations with clear cause and effect relationships. In this domain, leaders must "sense, categorize, and respond to a situation" (Snowden & Boone, 2007, p. 2). According to Snowden and Boone, this is the "realm of the 'known knowns'" (2007, p. 2)
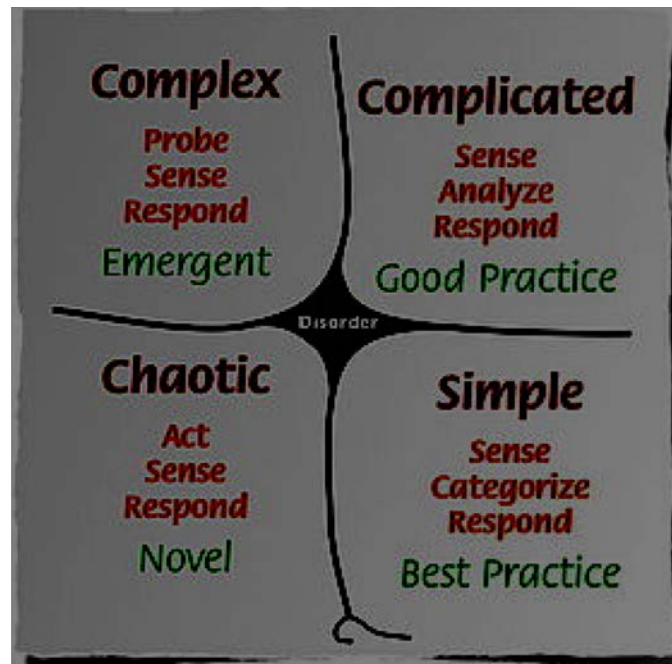
Figure 1.   Cynefin Framework (from ScrumSense, n.d.)

The second domain is the complicated domain. This is the "realm of the known unknowns." This domain, unlike the simple, may have multiple right answers to a given question. The cause and effect relationship is in place, but not clearly evident to everyone. In this domain, leaders must "sense, analyze and respond" as opposed to the simple domain where leaders must "sense, categorize and respond" (Snowden & Boone, 2007, p. 3). This domain relies on experts to analyze the situation and, ultimately, someone must pick the best solution among many "right" solutions

To the left of complicated, is the third domain, the complex domain. In this domain, although a right answer may exist, it may not be known until much later after the fact. This domain is unpredictable and outcomes are not clear; in this domain, leaders must "probe, sense and then respond." Snowden and Boone call this domain the "realm of the unknown unknowns" (2007, p. 5). Disasters and disaster preparedness are complex problems and the solutions are unpredictable and in many cases, not evident until after the event.

In the fourth domain, chaotic, there is no clear cause and effect and the shifting landscape makes the attempt to find the right answer an exercise in futility. Snowden and Boone call this the "realm of the unknowables" and place September 11, 2001 into this

domain (2007, p. 5). In this domain, the only response is to act quickly and decisively to create stability and move the situation from chaotic to complex.

The final domain, disorder, is a wild card. With no clear relationship to any of the other domains, disorder reigns and the response is up for grabs by whomever can dominate the playground. Once the dominant players take control, they will default to the characteristics of the domain in which they are most comfortable operating or that which meets their ultimate goal. Rule brokers will default to the clarity of the simple domain and those decision makers driven by research and data will default to the complicated domain. Intellectual residents of "think tanks" will look to the complex domain and emergent practices, and opportunists will use chaos to grab power and cement their position. This is not an indictment on any particular style or preference but rather a recognition that people gravitate towards domains that reflect their strengths and preferences. According to Kurtz and Snowden (2003), in an emerging situation, there is value in decision makers agreeing to reduce the size of this domain to achieve consensus on action. Put another way, pull the wild card out of the deck (Kurtz & Snowden, 2003).

In Snowden's final article in his blog series, he advances that this model now addresses differences in ontological (what is), how that interacts with epistemology (how we know), and phenomenology (how we experience) (2012). Helping people understand those three differences may impact their willingness to prepare.

G.   SUMMARY OF LITERATURE REVIEW

In spite of millions of dollars invested in public education campaigns, a significant number of Americans are still unprepared for disasters. Most government emergency management agencies follow a variation of the standard message found on Ready.gov with minor modifications for identified geographic threats or information for particular needs such as emergency preparedness for pets or the elderly. The standard message identifies how to create a preparedness kit and develop a family emergency plan, where to go for information on risk and hazards, and how to get involved in preparedness or volunteer activities.

Since 2001, an array of national surveys have attempted to measure current levels of personal preparedness, message acceptance, and action. These surveys provide a valuable means to assess current actions based on standard messages. From the first Citizen Corps survey in 2003 to the latest survey conducted in 2012, the surveys have sought to identify whether individuals were hearing and understanding preparedness messages and, more importantly, acting on them. While the surveys remain the most complete source of data on current levels of preparedness across the nation as well as identifying various impediments to individual actions, they are limited to measuring preparedness actions against criteria determined by government. As a result, there is a gap in literature that measures preparedness against standards different from the norm.

Several of the survey results appear to support the concept that geographic risk may make a difference in an individual's willingness to engage in personal preparedness activities. Other barriers include unwillingness to abandon pets, the belief that nothing they can do will affect the outcome, lack of confidence in government response or trust in government recommendations, and, as noted earlier, the belief that their preparedness level is acceptable for perceived threat (FEMA, 2007).

The positioning theory and the Cynefin framework offer additional methods to evaluate how and why people act. The positioning theory contends that individuals can choose, or be placed, in the role of victim or survivor. That placement will then influence an individual's perception of his or her rights as well as responsibilities (Harre et al., 2009).

The Cynefin framework offers another way to look at the public's receptiveness of the personal preparedness messages. Developed by David Snowden, the Cynefin framework organizes situations into five distinct domains, based on the correlation between cause and effect (Snowden & Boone, 2007). The five domains are simple, complicated, complex, chaotic, and disorder. Snowden advances that this model addresses differences in ontology (what is) and how that interacts with epistemology (how we know) and phenomenology (how we experience) (Snowden, 2012). The positioning theory and the Cynefin framework both may provide significant insight into how to individuals receive and act on messages.

While personal preparedness messages encourage specific actions, they appear unable to motivate a segment of the population. Most personal preparedness messages are based on a very specific set of actions that may not be practical, sustainable, or reasonable to many Americans. To change attitudes and actions, there must be a clear, actionable message. If the message is not acted on, the barriers to action must be identified and, if possible, removed. Understanding how individuals or communities perceive their position and how to either realign that perception or play to it may lead to messages that result in more action. Likewise, evaluating messages against the Cynefin framework, particularly how reality (ontology) intersects with understanding (epistemology) and experience (phenomenology) may lead to messages that better resonate with the publics they are designed to inspire.

The whole community concept emphasizes the importance of building social trust by working with communities to address local problems and layering preparedness messaging on top of everyday situations and issues that individuals are already engaged in. Ultimately, this approach requires the emergency management community to take a different approach to personal preparedness, recognizing that the abilities, capabilities, and desire to be "prepared" are so dependent on other needs and outside influences that the issue cannot be adequately addressed without looking at the entire system, or the whole community.

III.   THE MESSAGE MATTERS

If you don't like something, change it. If you can't change it, change your attitude.

—Maya Angelou

This year the United States will recognize the tenth anniversary of Hurricane Katrina, the costliest disaster in U.S. history (Unger, 2013) and fifth deadliest hurricane (Weather Underground, n.d.). In 2011, our nation faced another deadly storm, Hurricane Irene, which brought record flooding to much of the East Coast. Hurricane Irene killed at least 45 people, caused approximately $7.5 billion in damages and left more seven million customers without power (NOAA, n.d.) These record setting events dominate the air waves and generate countless news articles and stories of victims and heroes alike. Yet, with the exception of the scale and scope, these natural disasters are replicated every day across the nation. Whether it is flash flooding in southern Ohio or tornadoes in western Kansas, our citizens are at risk of losing their homes, their possessions, and potentially their lives. Chapter III will analyze the current approach to preparedness against the thesis statement by focusing on two distinct components of the research question. The first explores the actions the public is asked to take and the second if those actions are reasonable based on risk.

A.   IT IS NOT WHAT YOU SAY, BUT HOW YOU SAY IT

The first study will focus on what the public being asked to do. **Are the actions the public is asked to take practical based on barriers, such as income and lifestyle**, reasonable based on identified risk and reflective of personal perception of self, and how an individual may choose to act based on the way he or she senses and responds to an incident?

Personal preparedness campaigns have been part of the national landscape since World War II. The Office of Civil Defense sent air raid wardens on patrol through neighborhoods to ensure lights were doused and the block was secure (Wisconsin Council of Defense, 1942), and during the Cold War, sent Bert the turtle into schools to teach children how to duck and cover (Hubbard, n.d.). Hurricanes Hugo in 1989 and Andrew in 1992; the Loma Prieta and Northridge earthquakes in 1989 and 1994 respectively, the Midwest flood

of 1993, and the Palm Sunday tornado outbreak in 1965 all reinforced the need for personal preparedness (Woolsey, 2007). Every state emergency management agency in the nation has some kind of campaign that encourages the public to be prepared.

Most preparedness messages, whether they originate from a state, FEMA, or the American Red Cross, advocate some variant of a simple, three- or four-step message: "get a kit, make a plan, be informed and be involved" (FEMA, 2015). The message on FEMA's website, Ready.gov, identifies in detail what a family kit should consist of, what family plans should contain, and what kind of information individuals should know about their state and its natural and manmade hazards. Ohio's websites promote a similar message. The Ohio Committee for Severe Weather Awareness page on the Ohio Emergency Management Agency website encourages all Ohioans to have an emergency preparedness kit customized to meet the household's needs. A suggested supply list includes 43 items from clothing and bedding to food and water, duct tape and plastic sheeting, to cash and chlorine bleach. Ohioans are encouraged to replace batteries, food, and water every six months and to "rethink" their preparedness kit at least once a year. These websites and public information campaigns are full of detailed information on personal preparedness.

Every state emergency management agency website has some information about personal preparedness. An analysis of how the 50 state emergency management websites address individual preparedness was conducted for this thesis. Each site was reviewed based on 10 questions. Each question could be answered with a yes or no, although question 9 required a subjective determination on the part of the researcher.

The specific questions were intended to identify common themes and patterns that outlined recommended actions, relative risk, and recognition of barriers to compliance (age, income, and language):

1) The site advocates some version of the standard message of be informed, get a kit, make a plan and be involved or the previous message of get a kit, make a plan, be informed.

2) The site uses an alternate message, either in concert with or as a replacement for the three- or four-step message.

3) The site clearly identifies the state's specific risks.

4) The preparedness information is clearly linked to the identified risks.

5) The site contains or links to information that may address some identified barriers to preparedness such as youth or elderly specific needs, pet care, and medical issues.

6) The site contains information that may address economic challenges or offer ways to defray the cost of preparedness.

7) The site offers non-English translations of personal preparedness information. This could include a link to translation services, such as Google translations.

8) The site readability level based on a Flesch-Kincaid review.

9) The site offers innovative or particularly useful ways to approach personal preparedness. This is entirely subjective based on the author's opinion.

10) The site links to mobile applications or other new media.

Questions 1 and 2 identified whether the site relied on the standard messages from FEMA's Ready.Gov (Q1) or used a different approach (Q2). Questions 3 and 4 focused on clear identification of specific risk (Q3) and preparedness messages that linked to identified risk (Q4). Questions 5–7 addressed barriers to action, and question 8 measured a sample of the website to determine readability based on a review using the Flesch-Kincaid readability grade level test. The Flesch Kincaid readability test uses word length and sentence length to determine the ease with which a sentence can be comprehended by the public (Flesch Kincaid Readability Tests, n.d.). Questions 9and 10 look at innovative or particularly useful campaigns (Q9) and the extent to which new media is used to communicate the messages (Q10).

The sampling of the 50 state websites indicates that every state uses some variation of the three- or four-step message. Although some states have modified the slogan, every state encourages a plan, a kit, or the need to stay informed (Q1 and Q2). The majority (45) of websites have identified risk specific to the state (Q3), and 43 have preparedness messages tied to the risk (Q4). In addition, 38 states have information about specific planning issues, most focused on children, pets, or senior citizens (Q5). Only five sites appeared to recognize the cost of preparedness as a barrier, and these sites provided alternate methods to build a preparedness kit or alternate means to provide solutions to certain needs, such as

potable water (Q6). Moreover, 22 state campaigns include either a link to a language translation service, such as Google translator, or have translations of preparedness information materials available (Q7). The average grade level for websites or guides was the eighth grade, eighth month based on the Flesch Kincaid readability test. The site that tested the lowest or easiest to read was at the fifth grade, fifth month and the site that tested the highest or most difficult was twentieth grade, first month (Q8). In general, the site language was easier to read than the guides, particularly if the guides went into detail about hazards and the science behind them. Additionally, several websites approached specific barriers and challenges in individualized or unique ways either by offering a different way to prepare, providing specific tools and information, or using innovative ways to elicit participation (Q9). Finally, every website promoted some form of alternate media, most often YouTube, Facebook, Twitter, and downloadable mobile applications (Q10).

Examples of state websites that appeared to the author to address preparedness in a novel or unique fashion, or addressed specific barriers, such as economic challenges, include Alaska, Arizona, Georgia, Maryland, Utah, and Washington.

1.   Alaska

The Alaska Division of Homeland Security and Emergency Management uses the phrase "Learn, Prepare and Prevail." As suggested in the positioning theory argument, language can set the stage for how individuals respond and using the word prevail creates a culture in which Alaskans, residents of "the last frontier," will overcome and triumph over disasters (see Figure 2). Further recognition of some of the unique challenges facing Alaskans, the personal preparedness guide recommends building a seven-day kit, as opposed to the standard message of three days of supplies. The guide suggests starting the kit by inventorying what is already on hand and using a long-term approach, which encourages residents to build a kit over 12 or 24 weeks. The guide tacitly recognizes the cost to prepare a kit and recommends using the schedule as a cost-effective way to build supplies (Alaska Division of Homeland Security and Emergency Management [DHSEM], n.d.).

Figure 2.   Logo for Disaster Preparedness (from Alaska Division of Homeland Security and Emergency Management, n.d.)

2.   Maryland

Nearly every website promotes new technology and tools to help the public stay informed. Most often common are Twitter, Facebook, mobile applications, and alert systems. The Maryland Emergency Management Agency (MEMA) uses a product called Operational and Situational Preparedness for Responding to an Emergency (OSPREY) to keep the public informed about current emergencies and hazards. The system merges data from multiple sources to help decision makers and the public understand what is happening around them. The suite of tools includes OSPREY Public, an interactive map that provides information on current weather and traffic conditions and the locations of medical facilities. In addition, OSPREY Dashboard Public, as shown in Figure 3, provides a regional look at the status of power outages, weather, traffic, hospitals, and shelters in a color coded table. Both of these applications are available to the public (MEMA, n.d.). Having real- or near real-time information available to the public in easily digestible formats may help individuals make informed decisions about how to respond to events.

Figure 3.   OSPREY Dashboard Public (from Maryland Emergency Management Agency, n.d.)

3.   Georgia

The Ready Georgia program has a mobile application that can be downloaded onto a smartphone (see Figure 4). Created by the Georgia Emergency Management Agency and the Georgia Department of Public Health, users can search for history on local disasters and threats, receive alerts, create or update their disaster plan and key contacts and update their emergency supply list to monitor when supplies need to be refilled (Georgia Emergency Management Agency [GEMA], 2014). Georgia is not the only state to promote mobile applications; many states are using technology to reach and maintain connectivity with tech-savvy audiences.

Figure 4.   Ready Georgia mobile application (from Georgia Emergency
Management Agency, n.d.)

4.   Utah

The *Be Ready Utah Guide to Personal and Family Preparedness*, like many other guides, covers everything a family should do to prepare for an emergency, with some practical modifications and explanations (Be Ready Utah, n.d.). For instance, the guide notes that the 72-hour grab and go kit is something families should have prepared to take with them if they evacuate. Additionally, a stocked pantry should be part of the preparation for sheltering at home. This is a slightly refined message from the standard preparedness kit, which does not differentiate between the needs for sheltering at home versus evacuation. Furthermore, the guide also has non-standard guidance for water that identifies other water sources that may be accessed in an emergency, including the water heater, ice cubes, pipes, and the toilet tank (not bowl). Only a handful of sites identify water sources beyond the traditional, and this was the most informative (Be Ready Utah, n.d.).

5.   Washington

Washington State's Division of Emergency Management has a website with information ranging from to avalanche safety to weather radios. Under Washington EMD's "Prepare in a Year" campaign, which encourages one preparedness action each month, the issue of emergency supplies is addressed in a brochure called "Extended Events Supply List." The "'why' of preparing a supply list is answered up front, not because big government decrees it, but because "you can choose comfort over inconvenience" (Washington Division of Emergency Management [EMD], n.d.). Residents are encouraged to identify what they need, then add one or two items to their weekly shopping list, spreading out the overall financial cost over time. Furthermore, many of the pages have illustrations that link to easy to understand brochures with illustrations or videos that describe the actions.

6.   Arizona

The Arizona Emergency Information Network (AzEIN) is the state's official source of emergency and preparedness information. The site encourages Arizonians to "Plan, Prepare, Inquire and Inspire." As with Alaska's phraseology, using the word "inspire" may help create an environment that excites action by using nontraditional words and methods. For instance, AzEIN's "emergency kit cook-off'" is an annual contest inspired by the non-perishables in a 72-hour emergency food kit. The cook-off challenges professional and amateur chiefs to create a recipe using at least one of the featured ingredients, only non-perishable pantry and kit items, and to use manual tools in food preparation. Although stovetops and ovens are permitted, the challenge encourages alternative heating sources that might be found in a preparedness kit, such as candles, chafing dishes, fireplaces, and charcoal grills or camp stoves used out of doors.

In addition to developing a recipe, participants can go onto the website and vote for the featured ingredients. The 2014 ingredients included: chickpeas (protein), canned pumpkin (fruit or vegetable), instant Ramen noodles (starch, grain or nut), almond milk (beverage), and dark chocolate (comfort food). The winning recipes are posted on the website

and include pumpkin spice cake and garbanzo pasta (Arizona Emergency Information Network, n.d.). This unusual campaign not only draws attention and generates excitement but encourages the rotation of nonperishables in emergency kits.

Other notable state websites that address barriers include New Jersey, one of the few to address what residents without transportation should do to prepare, and the Nevada and Arizona sites that have tribal information prominently displayed along with links to tribal specific sites such as FEMA's Ready Indian Country campaign. Clearly, the need to address barriers and recognizing the "whole community" are beginning to take hold in the emergency preparedness world.

B.   WRITE FOR THE AUDIENCE

One barrier that continues to challenge efforts is literacy and low literacy. The results of a U.S. National Adult Literacy Survey, discussed in a report prepared for the Plain Language Ad Hoc Committee of the Productivity and Quality Commission (DuBay, 2004) reinforce the importance for public communication to be written in clear and understandable English, at a grade level appropriate for the audience. The literacy survey indicated that more than 80 percent of adults in America read at or below the tenth grade level and notes that experts recommend most public documents be written at the seventh grade level. The site that tested the lowest or easiest to read was at the fifth grade, fifth month, and the site that tested the highest or most difficult was twentieth grade, first month. In general, the site language was easier to read than the guides, particularly if the guides went into depth about hazards and the science behind them. For this analysis, only the grade level was measured. The state level preparedness websites average grade level for websites or guides was the eighth grade, eighth month based on the Flesch Kincaid readability test. If, as the national literacy survey suggests, 48 percent of adults read at a fifth grade or below level, their ability to understand the message may be a very real barrier (DuBay, 2004).

There are significant shifts occurring in the methods of preparedness messaging, however, like attempts to engage the public through novel campaigns such Arizona's cook-off and the Center for Disease Control's Zombie Apocalypse, first released in 2011 (Center

for Disease Control [CDC], n.d.-b). The Zombie Apocalypse campaign is clever (see Figure 5). It encourages individuals to know what other threats are in their area besides zombies, recommending local contact lists that include the zombie response team as well as family and other key contacts, and encouraging a preplanned evacuation route to ensure a successful evacuation before the hungry zombies attack. Each message centers on the zombie theme, but it also recognizes the utility of these plans and actions for other events such as natural disasters. The evacuation section offers the following advice:

> When zombies are hungry they won't stop until they get food (i.e., brains), which means you need to get out of town fast! Plan where you would go and multiple routes you would take ahead of time so that the flesh eaters don't have a chance! This is also helpful when natural disasters strike and you have to take shelter fast. (CDC, n.d.-b).

Figure 5.   Advertisement for CDC Preparedness Campaign (from CDC, n.d.-b)

At heart however, the key messages remain the same. The CDC's zombie attack preparedness campaign advocates being informed, having a plan, and building a kit. The approach may be novel enough to overcome those whose barriers are primarily psychological in nature or who find the scenario just quirky enough to pay attention to the campaign. To assess the real impact, however, surveys must be conducted to accurately evaluate

whether the campaign was just a clever marketing strategy or a program that will result in meaningful changes in behavior and action.

The review of state personal preparedness efforts indicates most messages tend to target a population literate enough to understand the threat and financially secure enough to invest time and resources in a stockpile of supplies. They encourage the development of a family plan, a communications plan, an evacuation plan, and a pet plan. Additionally, they assume a level of personal motivation and a willingness to accept the government's exhortations to be personally responsible. In some cases, they may even be difficult if not impossible, for some citizens to understand, let alone act on, underscoring the point that illiteracy, or low literacy can be a barrier.

C.   RISK AS A FACTOR IN PREPAREDNESS

This section will shift focus to the second part of the thesis question: **are the actions the public is asked to take** practical based on barriers, such as income and lifestyle; **reasonable based on identified risk** and reflective of personal perception of self; and how an individual may choose to act based on the way he or she senses and responds to an incident?

Research seems to indicate that threat and risk make a difference in decision making and understanding both will motivate action. Areas with well-known, documented threats, such as San Francisco or Miami, have higher levels of personal preparedness than areas with lower levels of threat (FEMA, 2007, p. 11). Understanding realistic risk based on location and threat appears to be a motivator to action. The Americans' traditional, somewhat generic approach to risk education may, in fact, be counterproductive.

Government efforts to inform the American public about risk in such a way as to cause a desired action has long proved a challenge. A 2003 FEMA recommendation that Americans stockpile duct tape and plastic sheeting to be prepared for a biological, chemical, or nuclear attack by terrorists provided rich fodder for comedians lampooning the federal government's prevention messages. This, in spite of the fact that the same shelter in place guidance has been promoted for years in communities within a specific radius of certain hazardous materials production facilities (CDC, 2012) The five-tiered, color coded

Homeland Security Advisory System fared no better—with comedians Jay Leno and Conan O'Brien creating their versions of the system and political pundits from both sides of the aisle taking aim at the DHS and the system.

In December 2011, the U.S. Department of Homeland Security released The Strategic National Risk Assessment in Support of PPD 8: A Comprehensive Risk-Based Approach toward a Secure and Resilient Nation. The Strategic National Risk Assessment (SNRA) evaluated known risks and threats that have the potential to cause significant harm to the nation at large, or could impact national security (2011). As such, the document identifies 23 national level events, such as natural disasters causing more than $100 million dollars in direct economic loss; technological or accidental events, such as dam failures, nuclear power plant radiological releases, or chemical spills resulting in offsite evacuations; and adversarial attacks, such as chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) terrorism, armed assault, or cyber-attacks. The full results of the SNRA are classified and the public does not have access to the details or the analysis. Since these are threats that will have an impact on a national scale, the public document is necessarily generic and broad. The Department of Homeland Security recognizes the limitations of the document and stresses that additional assessments at the regional and community level are needed to help those governments appropriately plan and prepare for the risks they may face. Ultimately though, the SNRA is a document intended for government planners, not for the public (DHS, 2011).

The United States has established risk assessment as a priority but primarily to inform operational and strategic plans. It is intended to cause a specific response as opposed to educating members of the public so they can make a reasoned, rational, personal response. While public education about personal preparedness is a national priority, public education focused on risk does not appear to carry the same urgency.

The federal system of government in the United States places the responsibility for public education on the states and local governments. While not a legal constraint, it does

mean that states and local governments are not bound to a specific federal model or approach to risk education. This may lead to fragmented approaches, but it can also lead to inspired and targeted state and local efforts.

The Florida Division of Emergency Management website features an annual severe weather awareness guide published as part of an annual severe weather awareness campaign. The guide includes information about area hazards, the science behind them, and includes instructions on how to make lightening and a tornado in a tube. It is easy to read and is filled with colorful graphics, dramatic photographs, and simple games, such as crossword puzzles and word searches. Topics include standard information such as all-hazard preparedness, as well as specific information such as tornado, lightning, and hurricane facts and safety actions; how to recognize and avoid a riptide; and how to create a safety kit. The guide is clear about the risks that face Floridians and how to respond to those specific risks (Florida's Severe Weather Awareness Guide, n.d.).

The Texas Emergency Management Public Information and Preparedness website was one of the easiest to navigate with clear linkage from threats to preparedness. Information was specific to Texas and the site included links on a variety of threats and actions from farm and ranch preparedness to Ebola virus awareness. The Texas site reinforces that if the intent is to educate and not overwhelm, simple sometimes works best. (Public Information and Education, n.d.)

Unfortunately, detailed risk assessments are often difficult for the public to access. For example, the Ohio emergency management agency is required to complete a risk assessment that guides emergency operations plan development and focuses mitigation activities. This assessment is intended to encompass all the hazards faced by the jurisdiction. While it is sometimes made public, the public is not the intended consumer nor is the risk assessment written with the general public in mind. Consequently, although these plans are not inaccessible to the public, they are not easy to find and, once found, difficult to understand. Post-September 11, 2001, additional risk assessments have been conducted focused on terrorist threats. These plans are generally classified secret or for official use only (FOUO) and not made available to the public. Ohio's website does list general threats to the state, such as extreme heat, flooding, thunderstorms, tornados and winter storms, but

the information about the threats is generic and actions, beyond the standard three-step message, are general.

Several states are using technology to help residents pinpoint their specific risk. One tool, the Map My Neighborhood campaign, used by Washington state among others, encourages communities to take a hands-on approach to risk identification. Residents, generally under the guidance of the local emergency manager, are asked to identify personal skills and equipment that might be useful in disaster response, create a neighborhood contact list that helps identify those who might need additional assistance, such as elderly or disabled, and develop a neighborhood map that identifies locations of natural gas and propane tanks. In addition, residents are encouraged to learn what steps they can take immediately following a disaster and to work together in the first few hours after a disaster to protect their communities and assess damage (Washington Emergency Management Division, n.d.).

The California Emergency Management website includes a function that allows residents to map their personal risk by entering in an address or a landmark. For example, when the Naval Postgraduate School, in Monterey, California is entered, a map showing the location of the school pops up and a list of hazards specific to the area is identified. In this case, the school is listed as being in or near the hazard "earthquake," and it lists specific activities that can be taken to mitigate the impacts of an earthquake, including securing objects around the home and reinforcing structural elements such as masonry chimney. The page also lists what the area is not at risk for, such as earthquake triggered landslides and liquefaction. Furthermore, the page offers several sites for additional research and information (California Emergency Management [Cal EMA], 2012).

The results of a study, commissioned by the California Earthquake Authority (CEA) and the California Emergency Management Agency (Cal-EMA), suggest that an effective public messaging campaign must make the case that recommended actions can reduce loss and suffering. The study, conducted by Harris Interactive, was built on prior research led by sociologists Dr. Linda Bourque of the UCLA School of Public Health and Dr. Dennis Mileti of the University of Colorado at Boulder and led to 11 recommendations

on effective public messaging, including several that support current practice. One key finding was that while understanding risk is important, using risk messages that reinforce negative outcomes of lack of preparedness may not be as motivating as focusing on why people should prepare and on the actions that can reduce loss and suffering (Harris Interactive, 2011, p. 7). Harris Interactive's study seems to conclude that the message is not the issue—the way the message is *communicated* is the issue. Messages need to be consistent, coordinated, regularly communicated, and action oriented to achieve the desired outcome: a prepared and resilient nation.

The researcher's analysis of state emergency preparedness websites indicates that while preparedness messages may be targeted to the state or geographic area, the general themes are consistent. Based on the current approach, being prepared means having a kit, making a plan, and being informed. It includes those physical steps that one can take to make oneself safer (more resilient) following disaster. A resilient population is one that has the ability to bounce back, to adapt to adversity, and return to a state of normalcy. However, the author would suggest that resiliency is more than being prepared for a disaster; it includes understanding the risk, accepting some measure of personal responsibility, and then proactively engaging in a solution.

One can understand a risk and yet not accept the suggested mitigating action. For instance, most individuals can agree that influenza or measles pose a health risk. However, recent disease outbreaks have reinforced that many parents do not agree that vaccines are an acceptable way to mitigate their child's risk of illness.

Likewise, one can understand a risk and yet choose not to accept personal responsibility for that risk. Most drivers understand that having a vehicular accident is a realistic risk of traveling by car. Yet, according to a press release issued by the Insurance Research Council, 12.6 percent of drivers are uninsured (Insurance Research Council, 2014). Drivers may understand the risk, but choose not to, or are not able to, accept personal responsibility and engage in a solution by purchasing insurance. The challenge for emergency managers is to develop messages that not only clearly convey risk but motivate personal responsibility and advocate multiple options to engage in solutions.

FEMA, under the momentum of Administrator Craig Fugate, has reframed the approach to preparedness. In 2011, FEMA launched a new program called, "Whole Community" and released a document describing the concept, A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action. This document outlines the intent of the program and offers suggestions for implementation. The whole community concept is based on three primary principles, "understanding and meeting the needs of the community, engaging and empowering all parts of the community and strengthening what works well on a daily basis" (FEMA, 2011, p. 23). Through this approach, FEMA hopes to build a more effective path to a secure and resilient society. The whole community concept suggests a philosophical shift away from a reliance on a standard set of actions to a recognition that to build a prepared society, we have to engage all members of the community, understand the needs and motivations of our citizens, build on what currently works in community engagement, and "move beyond the easy to looking at the real needs and issues a community faces" (2011, p. 7).

FEMA's acknowledgement of the critical need to encompass the "whole community" in the preparedness discussion was echoed by Garry L. Briese in a 2010 presentation on the EM Virtual Forum. Briese, a former FEMA regional administrator, recognized the challenges of personal preparedness in its current format, and discussed the need to integrate current understanding about human behavior into personal preparedness expectations. His presentation focused on what he identified as the "four essential elements of life—communications, transportation, power and water." Briese noted, "Twenty-two percent of our population does not have a single credit card," leading him to doubt the validity of the standard preparedness actions the public is asked to take, whether it is to develop and maintain a preparedness kit or to be prepared to evacuate when instructed. As Briese posits, "When you don't have a credit card, and you're living paycheck to paycheck, and using payday check cashing services, and you don't have a bank account, it's really difficult to do the things we're asking" (2010, p. 2). Continuing on this theme, Briese suggests emergency management and government officials should recalibrate what we are asking of the public and hone in on the key things we want them to do, recognizing the limitations many of our citizens' face. Briese also muses:

…are we asking too much and can we significantly reduce the list that we're asking people to have available for emergencies?…I would much rather have more people meet a lower bar of preparedness with the key items, than fewer people meet a higher bar of personal preparedness with so many items that we are not going to have anybody be compliant with it for any period of time. (2010, p. 2)

According to Irwin Redlener, director of the National Center for Disaster Preparedness, in an interview with Melanie Kaplan, part of the challenge with preparedness is there is no clear definition of what it is. The guidelines for hurricane preparedness may be very different than the guidance for a pandemic (Kaplan, 2010). He goes on to note that to be prepared to the extent advocated by status quo can be both an economic burden and a storage burden (2010).

This concern was corroborated by the author in an open discussion with several local emergency managers from Ohio in a 2011 December seminar. The managers were asked about current emergency preparedness messages and whether their citizens followed FEMA's and Ohio EMA's guidance to "get a kit, make a plan and be informed" (personal communication, December, 2011). Several directors agreed that a lack of understanding the threats facing a community was one reason for inaction. One director, faced with a high transient population, identified the need for a tiered system of preparedness, similar to the concepts of focusing preparedness efforts on the key items, as suggested by Briese. Some directors noted the storage challenges for those who live in apartments or condominiums. Most agreed that the in spite of bi-annual public awareness campaigns, many Ohioans are still not prepared for disaster (2011).

Ohio is not alone in the challenge of encouraging personal preparedness. Every state emergency management agency provides information to its citizens on how to prepare. Furthermore, nearly every state provides specific, detailed risk information on the hazards that threaten that state. FEMA, the American Red Cross, and other preparedness partners are using social media, technology, and innovative campaigns to encourage a population prepared for disaster. However, according to Garry Briese, a former FEMA regional administrator, emergency managers need to integrate current understanding about human behavior into personal preparedness expectations. In spite of new ideas, campaigns and a

focus on engaging the whole community, FEMA surveys seem to indicate that the needle is not moving very much. Chapter IV looks at four recent FEMA surveys that measure public preparedness and evaluates whether the needle is moving and if we are asking the right questions to measure preparedness.

IV. MEASURING RESILIENCE

> If a measurement matters at all, it is because it must have some conceivable
> effect on decisions and behavior.
>
> —Douglas W. Hubbard

Chapter III analyzed public messaging in the context of the thesis question: are the actions the public is asked to take practical based on barriers, such as income and lifestyle, reasonable based on identified risk, and reflective of personal perception of self and how an individual may choose to act based on the way he or she senses and responds to an incident? Chapter IV will look at the questions in four FEMA surveys that measure under-standing of risk, movement on specific preparedness actions, and identification of barriers that may prevent action.

A. PREPAREDNESS IN A POST–9-11 WORLD

According to Joe Becker from the American Red Cross, the needle is not moving on the percentage of those who are prepared (2009, p. 4). This is in spite of numerous surveys that measure the publics' preparedness. In 2003, the newly formed Citizens Corps began an effort to measure progress in personal preparedness. The first survey was intended to provide a baseline measurement of the public's knowledge, attitudes, and behaviors in relation to individual preparedness for disaster.

In the Citizen Corps surveys, more than 2,000 adults living in the continental United States were contacted by phone and asked questions focused on four areas: household pre-paredness, training, neighborhood preparedness, and volunteer service. The responses were consolidated into general conclusions that were then broken down into regional and demo-graphic profiles. Recognizing the need to create a baseline to measure progress or decline, this product proves valuable as a standard from which to evaluate later surveys and studies (FEMA, 2003). Since that initial survey in 2003, four additional surveys were conducted in 2007, 2009, 2011, and 2012. All five surveys included questions designed to measure the extent to which individuals are prepared for disaster, real or perceived barriers that may

prevent individuals from preparing, the perception of vulnerability to disasters, and the demographic impacts on disaster preparedness.

In 2007, the survey instrument was expanded to include questions designed to determine at which stage of the stages of change model (precontemplation, contemplation, preparation, action, and maintenance) individuals were in relation to their personal preparedness. The 2007 survey consisted of 15 topics such as risk awareness, disaster supplies, community and household plans, personal response, and demographics.

The 2009 survey included 13 topics and was refined to incorporate a series of questions designed to determine perception of risk based on four disaster scenarios including natural, hazardous materials, disease outbreak, and terrorism. The 2011 survey included many of the topics in the two previous surveys and added questions on motivators and barriers, information from schools or other children's programs, and mitigation activities. More questions were added to the community planning section, particularly alerting systems. Questions on specific risks were added to the sections on ability to respond and (if) preparing helps.

The 2012 survey added no new categories or questions but limited the focus to natural hazards and honed in on perceived risk, training, supplies, household planning, and knowledge of community plans and hazards. Questions about demographics were asked in each survey to identify motivations and barriers related to age, work status, education, income, functional needs, and ethnicity.

The results of the 2007, 2009, 2011, and 2012 surveys were summarized in a document released by FEMA in 2013, "Preparedness in America, Research Insights to Increase Individual, Organizational and Community Action." According to this report, the percentage of Americans who have taken actions to prepare remains largely unchanged since 2007 (FEMA, 2009, p. 5). Knowledge of how to prepare and expense of preparation continues to be perceived as barriers by 25 percent of those surveyed (FEMA, 2013, p. 12).

Regardless of the differences in each of the survey instruments, the overall intent of the surveys remained the same, "…to assess the public's knowledge, attitudes, and behaviors on preparing for a ranges of hazards…" (FEMA, 2009, p. 1). To that end, the "Preparedness in America" report explored three key areas: the relationship between behavior and an individual's beliefs and experiences, the different profiles of the general public to allow for more targeted messaging strategies, and the impact of community on personal preparedness (2013, p. 1).

B.   UNDERSTANDING RISK

All four surveys asked questions about the respondents' perception of risk and the last three about the respondent's knowledge of local hazards. In 2012, 46 percent of the respondents believed it was likely that a natural disaster would someday occur in their community. This is up from 40 percent in 2011 and 37 percent in 2007 (FEMA, 2009).

Areas with well-known, evident threats (such as San Francisco or Miami) have higher levels of personal preparedness than areas with lower levels of threat. Residents of hurricane prone states are more likely to be prepared (62 percent) than the rest of the country (57 percent overall) (FEMA, 2007, p. 10). Understanding and agreeing with risk based on location and threat is a logical motivator to action. More than 60 percent of the residents of San Francisco and Miami cite the reason for their level of personal preparedness is their understanding that they live in a high risk (hurricane or earthquake prone) area (2007, pp. 10–12). Intuitively, this makes sense to most people. Those who live in the Midwest are likely to have a basic understanding of what to do if a tornado siren sounds. Likewise, one of the first things taught to the author as a newcomer to Elmendorf Air Force Base in Alaska is what to do if there is an earthquake.

Forty-six percent of the respondents in 2012 also indicated they were familiar with local hazards, an increase from 33 percent in 2009 and 32 percent in 2011 (FEMA, 2009, p. 6). These small but steady increases may be the result of more targeted risk information on state websites and in preparedness guides. If, as research suggests, understanding risk may play a part in taking action (Harris Interactive, 2011), then clear, accessible risk communication is a foundational component of preparedness messaging.

C.   PERSONAL PREPAREDNESS KITS

Every survey has attempted to determine to what extent individuals have built their disaster kits for home, car, and workplace. In the first three surveys (2007, 2009, and 2011) the questions specify that <u>the supplies are set aside, to be used only during disaster.</u> This is of important because there are no follow-up questions that ask if the respondents believe that they have enough food or water available in their home, <u>not necessarily set aside to be used only during disaster</u>, to sustain themselves and their families following a disaster. Although the question does not include a 72-hour time frame, the 2009 survey equates disaster with an event that "could disrupt water, power, transportation, and also emergency and public services for up to three days" (FEMA, 2009, p. 67)

The number of individuals reporting that they have supplies "set aside, to be used only the case of disaster" has fluctuated from a high of 57 percent in 2009 to 52 percent in 2012. However, only 29 percent in the 2012 survey reported having updated or maintained their kits within the last year and could name three or more supplies in their kit (FEMA, 2009, p. 8).

Results of a similar survey conducted by the Center for Catastrophe Preparedness and were included in CPR issue 5. When asked questions designed to determine if respondents' preparedness actions agreed with their assumed levels of preparedness, approximately 50 percent of the survey respondents indicated they had an emergency preparedness kit; however, when asked what was in the kit, the number of respondents with fully stocked kits dropped to about 36 percent (FEMA, 2007, p. 4).

As noted earlier, there are no follow up questions in any of the surveys that probe the respondent's ability to sustain self and family in some other way besides a contained, set-aside disaster kit. Additionally, no questions ask if the respondent is knowledgeable about other means to acquire water or if the capacity to sustain self and family exists in a pantry or other location.

When this author has queried local officials and emergency managers at speaking engagements and conferences, the results have been even more significant. On several occasions, audiences have been asked the standard question about a supply kit, "Set aside to be used only during disaster, to sustain yourself and your family for 72 hours." In every instance, no matter the size or the make-up of the audience, no more than 10 percent have raised their hand in answer to the query. When the question is reframed to "do you have enough food, water and supplies available in your house to sustain yourself and your family for 72 hours," the raised hands are closer to 85 or 90 percent of the audience. This suggests that perhaps the second question might better gauge true levels of preparedness by focusing less on a specific task, such as preparing and maintaining a kit, and more on what the desired outcome of preparedness is, which may indeed look differently in Florida than it does in Ohio or North Dakota.

Whether one has a kit or a stocked pantry is not as relevant as the ability to access food, water, and supplies when needed. In some cases, that may mean a kit, in others a pantry that is filled with naturally rotating stock based on the likes and dislikes of the family. In still other cases, it may be a plan to relocate to a place where food, water, and supplies are available. For some, the best and most practical option might be to go "over the river and through the woods to Grandmother's house…" or to Mom and Dad's or even to a son or daughter's home that may have the space and funds available to keep a well-stocked pantry and supplies. It may be reasonable to develop messages that help individuals identify what they have on hand that can be used for emergency supplies and have a list of where those items are rather than placing them in a separate kit.

D.   HOUSEHOLD EMERGENCY PLANS

The surveys reviewed for this thesis do not ask questions about how the plans are stored and updated, only if the respondents have a plan, if they have discussed the plan with other family members, and if important financial documents are stored in a safe place. The respondents who have a plan and have discussed it with household members has decreased from a high of 42 percent in 2011 to 39 percent in 2012 (FEMA, 2009, p. 8). Most of the planning templates are focused on key contacts and information on what to do and

where to go in the event of a disaster. As more emergency management agencies, including FEMA, promote the use of mobile planning applications, future surveys may see an increase in electronic plans, if only to ensure that key contacts are loaded into cell phones and electronic tools.

E. WARNING SYSTEMS, EMERGENCY EVACUATION ROUTES AND SHELTERS

Additional questions in 2007, 2009, 2011, and 2012 FEMA surveys asked about familiarity with community plans. The community planning questions asked respondents to rate their familiarity with key planning issues on a scale of 1–5 with 5 being "very familiar" and 1 being "not at all familiar." The following areas were rated in at least three of the four surveys: community alerts and warning systems and knowledge of local hazards. The 2011 survey also asked about familiarity with community evacuation routes and the locations of shelters.

Respondents reported being most familiar with their community's alerts and warning systems. This is not surprising given the relative longevity of the Emergency Alert System, formerly the Emergency Broadcast System, the prevalence of outdoor warning sirens, in at least in some areas of the country, and the increasing use of National Oceanic and Atmospheric Administration weather radios. As noted earlier, 46percent of the respondents in the 2012 survey indicated they were familiar with local hazards (FEMA, 2009, p. 14).

Familiarity with community evacuation plans fluctuated from 15 percent to 17 percent, based on employment status, and familiarity with shelter locations from 16 percent to 20 percent. The survey report broke the statistics down by employment status with employed and not employed having the highest percentages and part time employment the lowest (FEMA, 2009, p. 33). Given that many shelter locations are ad-hoc, activated when needed and not necessarily in static locations, and that evacuation routes are generally dependent on a fixed threat, these results are not surprising. The all-hazard approach suggests that all Americans should be prepared to evacuate. While this is a perfectly acceptable assumption in a hurricane or wildfire prone area, it is not reasonable or realistic based on

perceived risk to many Americans living in other areas of the country. This is a meaningful measurement of individual preparedness when community risk requires pre-identified shelters or evacuation routes. However, unless there is a static threat that requires pre-identified evacuation routes and standard shelter locations, such as a nuclear power plant, hazardous chemical facility, or coastal hurricane threat, this may not be a meaningful community emergency preparedness message. In a community with no fixed hazard, evacuation routes will likely vary depending on the threat and many respondents may answer these questions in the negative. They may not be listening to the message because it is not relevant for that community and its citizens. Measuring knowledge of a non-existent and unneeded evacuation route gives a false reading on the levels of preparedness in that community. In the above example, the result may not be an accurate estimate of preparedness.

F.   BARRIERS TO ACTION

The commonly held belief is that barriers, real or perceived, have a direct bearing on an individual's ability and desire to prepare for disasters. All four surveys attempted to identify barriers to action. The Citizen Preparedness Review, Issue 5 analyzed survey results that probed known barriers, such as lack of concern, time, money, or knowledge about what actions to take. A significant number of respondents (62 percent) cited money as a reason for why they have not adequately prepared. Less than half of the respondents (37 percent) cite lack of time as a reason for inadequate preparedness, and 44 percent say lack of knowledge on how to prepare hinders their efforts. Approximately one-half of the respondents simply do not think disaster is very likely, and 45 percent have not thought about it much either way (FEMA, 2007 p. 8).

The 2011 survey asked respondents to address four perceived barriers to preparedness: cost, lack of knowledge, lack of time, and belief that getting good information is too difficult. Of those four, 25 percent believed that the cost was prohibitive, 24 percent felt they did not know how to prepare, 18 percent did not think they had time, and 17 percent noted it was too difficult to get information. Overall, more than 75 percent of the respondents perceived some sort of obstacle to their ability to prepare (FEMA, 2009, p. 12).

To date, each survey indicates a slow rate of progress in personal preparedness and in some areas, a decrease. In 2007, 53 percent of the respondents reported having emergency supplies set aside in their home to be used only during disaster. In 2009, the number of positive responses crept up to a peak of 57 percent. By 2012, the number was down to 52 percent (FEMA, 2009, p. 8). In 2007, 37 percent of the respondents reported having a household emergency plan. In 2009, the number inched up to 41 percent and fell back to 39 percent in 2012 (FEMA, 2009, p. 8).

Overall, the number of individuals prepared for disaster remains stagnant. While the surveys are valuable, they measure personal preparedness based on a very specific set of actions defined by government leaders. Some of these actions may be universally desired and common to every citizen in every part of the country. However, some may not be appropriate or logical given the area's risk or capacity of the individual. In those cases, the survey respondent may have determined the cost of preparedness as it relates to a specific action is not justified. What may be perceived by officials as barriers, may in fact be rational decisions based on understanding of threat and the perceived cost to benefit ratio of preparedness. Measuring outcome as opposed to actions may require a different tool that considers how an individual may choose to act based on the way he or she senses and responds to an incident and how the assumed position a person takes in a situation will influence their action.

V.   CYNEFIN FRAMEWORK—HARNESSING CHAOS

> Success is how high you bounce when you hit bottom.
>
> —George S. Patton

Chapter IV looked at four FEMA surveys that measure understanding of risk, movement on specific preparedness actions and identification of barriers that may prevent action. Chapter V will look at the issue of personal preparedness from the perspective of the Cynefin framework and how an individual may choose to act based on the way he or she senses and responds to an incident.

Cynefin is a Welsh word that means habitat or place. However, according to David Snowden, a Welsh academic and researcher, it more properly defines the idea that everyone has multiple affiliations (culture, history, religion, and ethnicity) (Kurtz & Snowden, 2003, p.467). While one may not be fully cognizant of those connections, they influence perception and action through personal experience as well as collective narratives (Kurtz & Snowden, 2003, p. 467). Snowden and Cynthia F. Kurtz presented the Cynefin Framework in their 2003 article, "The New Dynamics of Strategy: Sense-Making in a Complex and Complicated World." Furthermore, Snowden and Kurtz considered Cynefin a sense-making framework, a model that helps individuals give meaning to experience.

The Cynefin framework organizes situations into five distinct domains, based on the correlation between cause and effect. The five domains range from simple to complicated, complex to chaotic. Disorder is the wild card, the center of the space with no primary relationship to the other four. The movement between the domains is not linear; in other words, it does not have to flow from simple to complicated and so on. In fact, based on the situation, it is relatively easy to move from the simple domain directly into chaotic if the problems and issues are not addressed appropriately.

Within the Cynefin framework, the simple domain is characterized by stable situations with clear cause and effect relationships. In this domain, leaders must "sense, categorize, and respond to a situation" (Snowden & Boone, 2007, p. 2). It is a domain where there

is little need for discussion because the right answer or decision is obvious. This domain tends toward one clear problem, one clear solution.

According to Snowden and Boone, this is the "realm of the known knowns." (2007, p. 2). In many regards, this is where personal preparedness messaging is in America. However, disasters and the impacts they cause are not simple; minute changes in the situation can cause huge shifts in the outcome. Actions can be oversimplified and may not be sufficient to render an individual resilient or even prepared. Therein lies the first risk of assuming emergency preparedness can operate in the simple domain. A problem occurs, an evacuation is ordered, and people move to safety. However, this is only valid if there is a defined threat with a clear evacuation route, such as one might find along the coast, in an area prone to hurricanes. Contrast this with an area with no defined threat. If an evacuation is called in Columbus, Ohio, the residents must know what and where the threat is to be able to successfully evacuate. Is the threat from a chemical plant in the south end? Go north on State Route 315, High Street or Interstate 71. If the threat is to the west, go east on State Route 161, Broad Street, or Interstate 70. Without a defined, pre-identified threat, expecting citizens to know an evacuation route is futile. To call an evacuation in Columbus without identifying the location of the threat and a clear evacuation route may in fact move the situation right into chaotic. The expectation that people know the community's evacuation route without a fixed hazard is operating in the simple domain. The second domain may be more appropriate.

The second domain is the complicated domain or according to Snowden and Boone, the "realm of the known unknowns (2007, p. 3)." This domain, unlike the simple, may have multiple right answers to a given question. The cause and effect relationship is in place, but they are not clearly evident to everyone. In this domain, leaders must "sense, analyze and respond" as opposed to in the simple domain where leaders must "sense, categorize and respond" (2007). This domain relies on experts to analyze the situation and ultimately, someone must pick the best solution among many right solutions. Disaster response at the governmental level tends toward the complicated domain. Experts gather data and provide

solutions to the decision makers, who ultimately manage the event. Even though the situation may be fluid and there may be many right answers, the leader will, based on information and analysis, select the one solution he or she determines is best. Using the example of an approaching hurricane, the experts will identify the risk and potential impacts, assess the situation to determine the appropriate guidance to the public (evacuation or shelter), and then act (issue public information and initiate response). However, for many individuals, agreeing that evacuation is the right decision for them and then being prepared to do so when advised, may more appropriately belong in the complex domain. Many issues may be factored into that decision, such as cost, physical ability, location of threat versus availability of safe shelter, and history of similar events. What may appear to be a decision that lies in the simple or even complicated domains for government can quickly slide into complex for individuals. Government officials must be mindful that while their decisions may fall squarely in the complicated domain, an individual decision to adhere to government guidance may belong in the complex domain.

Although a right answer may be in the complex domain, it may not be known until much after the fact. This domain is unpredictable and outcomes are not clear; in this domain, leaders must probe, sense and then respond. Snowden and Boone call this domain the "realm of the unknown unknowns" (2007, p. 5). Disasters and disaster preparedness are complex problems and the solutions are unpredictable and in many cases, not evident until after the event. Choosing to evacuate from a hurricane in advance, may or may not be beneficial or even feasible for some people. The hurricane may veer out to sea, making some feel the cost of the evacuation was unwarranted. The projected landfall may be far enough north or south that the risk of evacuation is outweighed by sheltering in place. Lack of transportation or physical impairment may make the evacuation difficult if not impossible. Determining that the right decision was made may not be known until after the storm has passed. Leaders must be willing to consider all available actions to get to the desired outcome recognizing that the final result may not immediately be known.

The fourth domain is chaotic. In this domain, there is no clear cause and effect and the shifting landscape makes the attempt to find the right answer an exercise in futility. Snowden and Boone call this the "realm of the unknowables" and place September 11,

2001 into this domain (2007, p. 5). In this domain, the only response is to act quickly and decisively to create stability and move the situation from chaotic to complex. Post-Hurricane Katrina, the scene in New Orleans was clearly chaotic. One of the ways the government gained control of the situation was to begin mass relocation of survivors to other areas of the country. One might argue that this was not the most effective model, but it did bring a measure of order to the chaos by reducing the numbers of survivors that needed assistance in a city with no resources.

The final domain, disorder is a wild card. With no clear relationship to any of the other domains, disorder reigns, and the response is up for grabs by whomever can dominate the playground. Once the dominant players take control, they will default to the characteristics of the domain in which they are most comfortable operating or which meets their ultimate goal. According to Kurtz and Snowden, in an emerging situation, there is value in decision makers agreeing to reduce the size of this domain to achieve consensus on action (2003).

The challenge we face in America is we have placed much of individual preparedness in the simple domain, one problem and one right answer. Some actions, such as preparedness kits or plans may land in the complicated domain, with many right solutions. In other circumstances, the resources, capabilities, understanding and history of a potential threat may move an individual response into the complex domain with many known and unknown solutions with no right answer immediately evident.

According to Snowden and Boone, there are several ways to manage the uncertainties of complicated and complex situations. Opening up discussions with impacted individuals can lead to innovative ideas that meet the needs of the stakeholders. Encouraging expression of opinions can allow for the formation of well-defined and thoughtful solutions that recognize diverse, yet positive, outcomes. Being prepared for and managing emerging situations rather than trying to force an identified action can create an environment where the focus is on outcomes, not actions. In the case of disaster, this reflects a resilient public. The finite steps to preparedness, simple solutions to a relatively known problem become far less important in this model. A diverse and dynamic set of flexible solutions created by

the stakeholders is what is needed in this complicated and complex environment, which ultimately leads to the desired outcome, a resilient society. Rather, the messages emergency managers espouse to the public should be cognizant of what senses individuals may use based on the complexity of a situation, and how they may then choose to act based on the way they sense and respond to an incident. In that manner, the method used to encourage preparedness may be less prescriptive and more optional, and as a result, lead to the desired outcome of a resilient society.

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VI. POSITIONING THEORY—CHANGING THE OUTCOME

> Words are singularly the most powerful force available to humanity. We can choose to use this force constructively with words of encouragement, or destructively using words of despair. Words have energy and power with the ability to help, to heal, to hinder, to hurt, to harm, to humiliate and to humble.
>
> —Yehuda Berg

This chapter discusses personal preparedness from the frame of positioning theory, which looks at the roles and rights, duties, and responsibilities that individuals assume based on their perceived or actual position in the world. A 2009 article published in *Theory and Psychology*, "Recent Advances in Positioning Theory," by Harre et al., explored new applications of the use of positioning theory to explain interpersonal encounters. Based on this theory, individuals can choose, or be placed in, the role of victim or survivor. That placement will then influence an individual's perception of his or her rights as well as responsibilities.

Positioning theory evolved out of role theory, a social psychological model that contends each person responds to situations based on his or her defined role (wife, student, child, and father). Within each role there are established behaviors that each person must fulfill to be successful within that assigned role. As such, people behave in a predictable fashion consistent with the role ("Role Theory," n.d.). This theory posits that roles are static and generally not flexible. If a woman gives birth, she is a mother, and there are societal expectations of her in the role of mother. Likewise, a college student is expected to perform certain actions, such as attend class, take exams, and turn in required assignments. If she fails to perform these actions, then at some point, she will be expelled and no longer considered performing the role of college student, at least at that institution. Some roles are arbitrary and unchangeable. For example, a Caucasian male cannot arbitrarily decide to change his ethnicity, although recent advances in medical science may allow him to change

his gender thereby changing his role in society from Jim, Caucasian male, to Jane, a Caucasian female. Regardless of gender, Jim/Jane's ethnic role is Caucasian and that is not subject to change, at least at this point in history.

According to Davies and Harre, in their article "Positioning: The Discursive Production of Selves," the challenge with role theory, is that evaluating actions identified by roles is static and based on formal, ritualistic aspects. They contend that how people position themselves may be a more reliable precursor to their actions than their static role. A key element in positioning theory is belief that language not only communicates but shapes the way individuals act based on how they position themselves relative to the language used (Davies & Harre, 2007, p. 2). Craig Fugate understood this when he reframed those impacted by disasters from "victims" to "survivors," first, as director of the Florida Division of Emergency Management and then as the administrator of FEMA (Whitehead, 2009).

Discourse, or dialogue, creates a framework in which one positions himself or others. The assumption of position will determine where and individual is placed in the narrative. Davies and Harre (2007, p. 4) assert there are two ways individuals get positioned into the narrative: interactive positioning and reflective positioning. In reflective positioning, the individual defines his or her own position, and interactive positioning is defined by someone else. In both cases, the positioning may or may not be intentional. However, just as conversations shift and change based on input, an individual's position can flex based on how the dialogue changes the narrative, and, therefore, where each player in fits into the storyline (2007, pp. 2–3).

Messages vary based on the context in which they are given, not just within the relationship of the sender and receiver, but the historicity of the message and language (Harre, 2004, p. 5). Before September 2005, Katrina was just a name; post-Hurricane Katrina, it became not only a historic marker in American history, but it was a descriptor of a catastrophic event. In 2009, U.S. Congressman Zach Wamp described a coal ash spill at a Tennessee Valley Authority plant as "a Katrina-like event" in his plea to the federal government for recovery dollars (Collins, 2009) The headline for a March 2013 article on

the Livescience website is "Katrina-Like Storm Surges Could Become the Norm" (Oskin, 2013). And during a press conference in advance of Hurricane Sandy, Connecticut Governor Dannel Malloy urged residents to move to high ground, saying "this is a rather Katrina-like warning" (*CBS New York*, 2012). In each case, the term "Katrina-like" evokes a specific meaning that Americans correctly interpret to mean an event with catastrophic consequences. Without the context of the 2005 hurricane, the term would be meaningless. In the same sense, 9–11 now means something very different from what it meant on September 10, 2001. On that day, if someone said the phrase "nine-eleven" in a public safety context, the listener might have assumed that the speaker meant to say "nine-one-one," referring to emergency dispatching. It would be difficult to imagine a listener making that mistake today. Dictionary.com now has a definition of 9/11 or 9–11, referring to the terrorist attacks that occurred on September 11, 2001 at the World Trade Center in New York City, the Pentagon in Virginia, and the plane crash in western Pennsylvania. Again, the historicity aligned with the context of the phrase changes the meaning entirely. Add to that context the position of an individual relative to the attack and again, the phrase will elicit an entirely different response. A fire fighter from New York City will react to a reference to 9–11 much differently than a schoolteacher from St. Louis. Likewise, a survivor of Hurricane Katrina who is asked to prepare for a disaster might respond differently than a resident of Columbus, Ohio who has never experienced a major flood let alone a catastrophic event. The individuals' physical location, history, and personal positioning play a critical element in their willingness to prepare and understanding of risk.

FEMA Administrator Craig Fugate's attempt to reframe victims of disasters to survivors is consistent with the concept of positioning theory. By positioning individuals impacted by disaster as survivors, FEMA is helping them assume the responsibility to be accountable for their own survival, as well as an implied duty to help others. By assuming the role of survivors, they become not only enablers in their own response and recovery, but allow government resources to focus on those who are positioned, regardless of cause, as victims. In the role of survivors, they may even feel a responsibility to provide for others more impacted than themselves or their families.

Individuals placed in the role of "victim" may feel justified in abdicating any responsibility for preparedness, survival or recovery, which requires the government to fill that role. In that case, they will also likely feel they have a right to certain provisions and benefits: ice, food, water, and shelter in the immediate aftermath of an event and government grants or loans during recovery. As victims, they may feel these rights are inviolable and can feel betrayed if their needs are not met to the standard they believe is warranted.

The position an individual is placed in or places himself in is not static. The environment, other individuals involved in the encounter, and outside stimulus all change the framework of the interpersonal relationship and the position of the individual relative to role, rights, responsibilities, and duties. Consequently, an individual may assume the role of a survivor for an event that is either familiar or planned. Many individuals who live along the Ohio River in southern and eastern Ohio are relatively sanguine about the flood risk from the river. To them, the risk is part of river life, and they have plans in place to move their possessions and their families to higher elevation when river flooding is predicted. When the water recedes, they clean up their homes and property and resume their daily activities. The most responsible residents maintain flood insurance, understanding that in the event of flooding, flood insurance will provide the greatest assurance of recovery. Within the framework of positioning theory, they have demonstrated a closer nexus to survivor than victim. They accept the risk of flooding as well as the responsibility to prepare and recover from that risk. However, since positions are not static, rights and responsibilities shift as new patterns emerge. In the event of a less common disaster, such as a tornado or chemical event, they may be less prepared and therefore more likely to assume the role of victim. In this case, they may be more inclined to wait for outside assistance and may feel betrayed if that assistance is not readily offered.

In his September 2004 article "Positioning Theory," Harre suggests that if roles as identified within the framework of role theory are relatively inflexible and static, then positioning theory is about how humans change their positions based on the transitory and conflicting nature of language. According to Harre, people use three primary conditions to create their basis for action. The first is admissible social acts, in particular the illocutionary

force, in which the meaning of a phrase or word is based on who is using it, where it is used and for what purpose. For instance the variations in meaning of the phrase "excuse me" can range from "excuse me," (for bumping into someone), to "excuse me?" (I didn't hear you) to "excuse me!"(for breathing).

The second condition is the distribution of rights and duties. Each individual right/duty is a position. Catholics have a duty to confess their sins and perform acts of contrition. Once this is done, they have the right to participate in communion. A baseball player has a duty to participate in practices; if he does so, then he has the right wear the uniform and participate in games. Much like the example of the student in the earlier discussion on roles, this condition is reflective of both role and position.

The third condition is the story line or narrative in which an individual participates. An overseas deployment to Germany may be the opportunity of a lifetime for one soldier and an excruciating ordeal for another, depending on how they position themselves in the narrative. Harre believes that each of these conditions influence the other creating a positioning "triangle." (2004, pp. 7–8). The position assumed by an individual, in tandem with her rights and duties will impact understanding of the illocutionary force of dialogue or message. These, in turn, may be influenced by the narrative or storyline of the event.

An article in the Forum: Qualitative Social Research by Francisco Tirado and Ana Galvez on the impact of conflict adds a new element to the concept of positioning theory and personal preparedness (Tirado & Galvez, 2007). They suggest that conflict can be an opportunity for change as opposed to the traditional view that conflict is negative. *Merriam-Webster's* online dictionary offers two definitions of conflict that inform the discussion on positioning theory. The first is "competitive or opposing action of incompatibles: antagonistic state or action (as of divergent ideas, interest or persons)" The second definition is "a mental struggle resulting from incompatible or opposing needs, drives, wishes or external or internal demands." ("Conflict," n.d.)

In both of these definitions, one can see the conflict that arises within the field of emergency preparedness. The barriers identified in the preparedness surveys identify areas of incompatible or opposing needs, expending limited dollars on a preparedness kit that

may be used sometime in the future, or using those same dollars to meet an immediate or more pressing need. Taking time to learn about area risks and develop a plan or spending that time on work or leisure activities. Measuring external demands by government to take actions now to prepare for a future risk against an internal voice that resists those actions for other, perhaps equally compelling demands.

Individuals can choose, or be placed in, the role of victim or survivor. They can choose or be placed in role of responder or casualty. That placement will then influence an individual's perception of his or her rights as well as responsibilities. If messaging is reflective of personal perception of self and personal perception is defined by language and dialogue, then is it critical that those who prepare the messages use appropriate language to foster positive positioning. Craig Fugate was dead on when he reframed victims as survivors. He used words to inspire a different context for those who have lived through disaster and by doing so encourage a stronger, more resilient self-image of disaster survivors.

VII. MOVE THE NEEDLE

> Think left and think right and think low and think high. Oh, the thinks you can think up if only you try!
>
> —Dr. Seuss

A.   IS THE NEEDLE BROKEN?

This thesis explored why, after millions of dollars and years of public campaigns, many Americans are not prepared for disaster, at least as preparedness is defined by FEMA and our nations' emergency management community. The research question addressed the actions the public is asked to take and whether the public perceives they are practical and sustainable based on barriers, such as income and lifestyle, and reasonable based on identified risk.

This research began with several assumptions:

- Current preparedness campaigns seem to imply that once the action is taken, the individual is prepared yet the investment in effort and money may be significant.

- To achieve the desired outcome, the message must be redefined to ensure the actions being asked are reasonable, sustainable, and realistic.

- The public must understand the message, believe the actions requested are valid, and be able to act appropriately for the overall preparedness outcome to be achieved.

- The current preparedness campaigns do not appear to changing long term behavior which will lead to the desired outcome. That is, a more resilient population.

- If the standard approach the emergency management community has used for the last several decades is flawed, then the needle might not simply be stuck. It may, along with the entire system, be broken.

- Perhaps the problem is not just with the needle, which is simply measuring action or inaction, but with the actions themselves and the messages used to promote them.

Millions of dollars have been spent trying to convince members of the public to take responsibility for their personal preparedness. Regardless of the approach taken, the percentage of individuals and families that appear to be prepared for disaster has remained

relatively stagnant, resulting in the analogy that the needle is stuck. Joe Becker, from the American Red Cross suggested the challenge is to get the needle moving on the percentage of those who are prepared (2009, p. 4). FEMA Administrator Craig Fugate has said that families who fail to take basic steps to prepare for disaster pull responders from those who in critical need of help (2009, pp.10–11). Garry Briese argues that the bar for preparedness is too high and personal preparedness should be refined to those actions most important to the outcome.

B.   FINDINGS

Successful public safety campaigns, such as "Stop, drop and roll" and "Click it or ticket," generally require a low investment in cost and time and have a clear and compelling negative outcome if the action is not taken. The current preparedness actions require an investment in time—to acquire knowledge, develop a plan, prepare a kit—and money to purchase and store the items for a kit. To be effective, both the plan and kit must be maintained.

With a few exceptions, researchers agree that understanding and agreeing with risk is a driving factor in an individual's desire to be personally prepared. Some jurisdictions, such as California, are using technology to help their residents understand the threats and risks of the community. It is past time for the emergency management community at large to recognize that threats and risks are not universal and one generic message is not sufficient.

Positioning theory advances that language not only communicates, but shapes the way individuals act based on how they "position" themselves relative to the language used (Davies & Harre, 2007, p. 2). FEMA Administrator Craig Fugate's attempt to reframe victims of disasters to survivors is consistent with this concept of positioning theory. By positioning individuals impacted by disaster as survivors, FEMA is helping them assume the responsibility to be accountable for their own survival, as well as an implied duty to help

others. By assuming the role of survivor, they become not only enablers in their own response and recovery but allow government resources to focus on those who are positioned, regardless of cause, as victims.

While the surveys are exhaustive, they measure personal preparedness based on a very specific set of actions defined by government leaders. Some of these actions may be universally desired and common to every citizen in every part of the country. However, some may not be appropriate or logical so the survey respondents may have determined the cost of preparedness as it relates to a specific action is not warranted or justified. What may be perceived as barriers, may in fact be rational decisions based on understanding of threat. According to a report released by FEMA in 2013, the percentage of Americans who have taken actions to prepare remains largely unchanged since 2007 (FEMA, 2009, p. 1). Knowing how to prepare and expense of preparation continues to be perceived as barriers by 25 percent of those surveyed (2013, p. 12).

Often individual preparedness is framed as simple, one problem, and one right answer. Some actions, such as preparedness kits or plans may morph and become complicated, with many potential solutions. During disasters, the availability of resources, capabilities, understanding, and history of a potential threat may move an individual response into the complex domain with many known and unknown solutions with no right answer immediately evident.

A 2008 Columbia University report suggests that a fundamental lack of trust that loved ones will be protected must be resolved if the disconnect between evacuation plans and individual action is to be eliminated (Redlener et al., 2008, p. 6). Even with known threats, the surveys indicate high levels of reluctance to evacuate, particularly if the respondent is unsure that her or his children or loved ones would be protected (2008). Each of these findings points back to last two hypotheses: if the needle is broken, perhaps the problem is with the actions the public is asked to take.

C. RECOMMENDATIONS

As the emergency management community continues to challenge the public to prepare, there are several recommendations that may encourage a more resilient population. Reframing what preparedness looks like, focusing on outcomes, rather than actions and looking for new ways to include the community in the conversation may prompt new ways to prepare for disasters. Rethinking how preparedness is measured and conducting studies on whether actions actually effect outcome will allow more refinement of the message and rigor to the conversation. Finally, recognizing personal choice and planning for action, as well as inaction, will allow emergency managers to better prepare for the needs of their populations.

(1) Reframe the Concept of Preparedness

A disaster kit, prepackaged and stored away to be only used in a disaster is not practical or sustainable action for many Americans. It is costly and takes time, attention, and desire to maintain. Reframing the requirement away from a disaster kit to one that focuses on the ability to sustain self and family for 72 hours with supplies currently on hand may be far more achievable for most Americans. For instance, pantry stocked with canned goods and daily supplies that can be opened and eaten cold if necessary may be a better option than a packaged emergency supply kit loaded with Spam and cans of tuna. The most effective preparedness solution for individuals and families challenged by lack of money or storage may be to identify a nearby location, either with family or friends, where they can safely weather the storm. Some campaigns and approaches are beginning to look for alternate ways for individuals to be prepared, relying less on the kit concept and more on an outcome of preparedness, whatever that looks like.

(2) Focus on the Outcome Rather Than Actions

The steps to preparedness—get a kit, make a plan, be informed, be involved—simple solutions to a relatively known problem become far less important. A diverse and dy-

namic set of flexible solutions created by the stakeholders is what is needed in this complicated and complex environment, ultimately leading to the desired outcome, a resilient society.

(3)　　Create Opportunities for Dialogue with Impacted Individuals with no Preset Outcome

Communication with the public, as opposed to emergency managers and professional communicators, may lead to innovative ideas that meet the needs in non-traditional ways.

(4)　　Refine Personal Preparedness Surveys to Allow for Measurement of Alternate Ways to Prepared May Actually Result in a More Prepared Individual

While it may be valuable to ask the standard question about a preparedness kit set aside to be used only during disaster, it is important to probe the negative responses to get a more accurate level of preparedness. Asking questions about stored food not in a kit or the ability to access stored water in other areas of the home not only measures a different type of preparedness, it moves the discussion about preparedness in new and equally valid directions.

(5)　　Conduct Post-Disaster Studies of the Efficacy of Personal Preparedness

The author could find no studies on whether being prepared makes a family more resilient or, as just more comfortable. There appears to be no empirical evidence appears to support the common assumption that when the waters rise, the wind blows, or the earth shakes, someone who "has a kit, a plan and is informed," has a greater chance of survival and successful recovery than his neighbor, who does not. Emergency management websites and publications seem to posit that personal preparedness pays dividends in lessened impacts and faster recovery; however, there do not appear to be readily available post-disaster statistics to validate that claim.

(6)　　Consider That Perhaps the Needle Has Moved as Far as It Can

Maybe the needle is stuck on half full because that is all the juice there is. Perhaps it is time to recognize that those who can are preparing, although perhaps not to the standard

the government proposes. Some of those who are not prepared may intentionally be choosing to refuse that role. Others may be placed, by choice or circumstance, in the victim role and may be unable to prepare. Emergency preparedness campaigns should continue, albeit with a reframed message that better reflects practical, sustainable, and risk appropriate actions, but it may be time to stop obsessing over the lack of preparedness. While the emergency management community can continue to march to the drumbeat of "get a kit, make a plan, be informed," it must recognize that many may choose to ignore that beat and march instead to their own.

D.   RECOMMENDATIONS FOR FURTHER RESEARCH

To date, there do not appear to be any studies that measure, post disaster, whether being personally prepared makes a difference in the outcome. Conducting case studies post may be able to validate the preparedness measures that proved most effective, as well as those that were not planned but emerged as a result of the situation. Studies should continue on the impact risk plays in individual preparedness as well as the impact of barriers, real or perceived. A glaring gap in the literature surrounding the current preparedness program is one of efficacy. The author was unable to locate surveys, studies, or analyses that determine whether or not personal preparedness kits or plans really make a difference. No empirical evidence appears to exist that supports the common assumption that when the waters rise, the wind blows, or the earth shakes, someone who "has a kit, a plan and is informed" has a greater chance of survival and successful recovery than his or her neighbor, who does not. Experts believe that personal preparedness pays dividends in lessened impacts and faster recovery; but there do not appear to be post-disaster statistics that are least readily available to validate that claim.

More analysis of individual preparedness and recovery from the framework of the positioning theory may provide valuable insight into why individuals either accept or reject the role of survivor. Understanding how people are positioned, or position themselves, may help reframe the messages to encourage personal acceptance of individual duty. In addition, it may allow government to have a more realistic discussion about its responsibility

to individuals post disaster and may help reframe their assumed rights of immediate response.

A review of the Cynefin framework and the positioning theory within the context individual choice for action or inaction provided a valuable insight into personal perception of self and how individuals may choose respond based on how they frame themselves within a situation.

As the frequency and cost of disasters increases, a clear understanding of and agreement on the desired outcome of preparedness is more important than simply measuring kits and plans. There are many roads to resiliency; encouraging multiple paths may lead to a stronger, sounder, more resilient solution that driving everyone down the same highway. At the end of the day, the fact that all get to the final destination is what is important; how they get there is negotiable.

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LIST OF REFERENCES

Absolute Astronomy. (n.d.). Hurricane Betsy. Retrieved November 19, 2011, from http://www.absoluteastronomy.com/topics/Hurricane_Betsy.

Alaska Division of Homeland Security and Emergency Management. (n.d.). Building a 7 day emergency kit. Retrieved on February 22, 2015 from http://www.ak-pre-pared.com/outreach/Documents/Alaska%207-day%20Emergency%20Kit.pdf

Arizona Emergency Information Network. (n.d.). Emergency kit cook-off. Retrieved March 23, 2015, from http://www.emergencykitcookoff.org

Be Ready Utah. (n.d.). *Your guide to personal and family preparedness*. Retrieved March 23, 2015 from http://marketing.mediaoneutah.com/up-loads/d44322742fa12ee6f0e0be039794d797EmergencyPreparedness081611.pdf

Briese, G. (2010). The four essentials of life-communications, transportation, power and water. Presented at The EIIP Virtual Forum. Retrieved on November 5, 2012, from www.emforum.org/vforum/Four Essentials.pdf

Cates, T. & Milke, J. (2006). Stop, drop and roll: The technical substantiation behind public fire safety messaging. National Fire Protection Association. Retrieved March 10, 2015, from http://www.nfpa.org/research/fire-protection-research-foundation/reports-and-proceedings/for-emergency-responders/fire-prevention-and-administration/stop-drop-and-roll-the-technical-substantiation-behind-public-fire-safety-messaging

CBS New York. (2012, October 29). Conn. Governor Malloy issues 'Katrina-like warn-ing' to residents who defied evacuation orders. Retrieved February 24, 2015, from http://newyork.cbslocal.com/2012/10/29/connecticut-officials-urge-residents-to-take-hurricane-sandy-seriously

Centers for Disease Control and Prevention. (n.d.-a). Chemical agents: Fact about shelter-ing in place. Retrieved March 12, 2015, from http://www.bt.cdc.gov/plan-ning/shelteringfacts.asp

Centers for Disease Control and Prevention. (n.d.-b). Zombie preparedness. Retrieved November 2011, from http://www.cdc.gov/phpr/zombies.htm

Clark, I. (2011). Personal resilience is at the core of effective continuity of operations plans. *The CIP Report* 9, no. 10. Retrieved November 25, 2010, from http://cip.gmu.edu/wp-content/uploads/2013/06/CIPHS_TheCIPRe-port_April2011_COOP_COG-Part-1.pdf

Conflict. (n.d.). *Merriam-Webster*. Retrieved March 2, 2015, from http://www.merriam-webster.com/dictionary/conflict

Collins, M. (2009, January 8). Wamp: ash spill a Katrina-like event. *The Knoxville News Sentinel*. Retrieved February 24, 2015, from http://www.knoxnews.com/news/state/wamp-ash-spill-katrina-event Exact date of article?

Davies, B. &. Harre, R. (1990). Positioning: The discursive production of selves. *Journal for the Theory of Social Behavior*, 20 (1), pp. 43–63. Retrieved February 22, 2015, from http:www.massey.ac.nz/~alock/position/position/htm

DeFrancis, S. (2009). *Preparedness Part 1 and 2. Committee on Homeland Security, Subcommittee on Emergency Communications, Preparedness and Response*. Retrieved November 10, 2010, from http://www.gpo.gov/fdsys/pkg/CHRG-111hhrg57849/html/CHRG-111h.hrg57849.htm

Devlin, P., (October, 2011). 1909: Grand isle destroyed by hurricane. *The Times-Pecayune*. Retrieved December 30, 2011, from http://www.nola.com/175years/index.ssf/2011/10/1909_grand_isle_destroyed_by_h.html

DuBay, W. (2004). What is plain language? Retrieved January 14, from http://qpc.co.la.ca.us/cms1_033658.pdf

Federal Emergency Management Agency. (2003). Citizen Corps Survey of U.S. households. Retrieved February 6, 2007, from www.cert-la.com/education/citizen_corps_2003_survey_results.ppt

Federal Emergency Management Agency. (2005). National Planning Scenarios: Executive Summaries. Version 20.2. Washington, DC: Author. Retrieved February 1, 2010, from http://qpc.co.la.ca.us/cms1_033658.pdf.

Federal Emergency Management Agency. (2006). A Post Katrina assessment: Citizen preparedness review, community resilience through civic responsibility and self-reliance. Washington, DC: Author.

Federal Emergency Management Agency. (2007). Update on citizen preparedness research, Issue 5. Community resilience through civic responsibility and self-reliance. Washington, DC: Author. Retrieved October 30, 2010, from http://www.citizencorps.gov/downloads/pdf/ready/citizen_prep_review_issue_5.pdf

Federal Emergency Management Agency. (2009). FEMA: Personal preparedness in America: Findings from the Citizen Corps National Survey. Retrieved February 1, 2011, from http://www.safeamerica.org/drill/personalpreparedness.pdf

Federal Emergency Management Agency. (2011). *A whole community approach to emergency management: Principles, themes, and pathways for action*. Retrieved March 20, 2015 from http://www.fema.gov/media-library-data/20130726-1813-25045-0649/whole_community_dec2011__2_.pdf

Federal Emergency Management Agency. (2013). *Research insights to increase individual, organizational, and community action*. Washington, DC: Author.

Federal Emergency Management Agency. (2015). Ready.Gov. Retrieved March 23, 2015, from http://www.ready.gov/ready2015

Flesch-Kincaid Readability Test. (n.d.). *Wikipedia*. Retrieved March 2, 2015, from http://en.wikipedia.org/wiki/Flesch%E2%80%93Kincaid_readability_tests

Florida Division of Emergency Management. (n.d.). *Florida's severe weather awareness guide: Get a plan*. Retrieved March 14, 2015, from http://www.floridadisaster.org/swaw/2015/documents/2015%20Guide.pdf

Galvez, A. and Tirado, F. (2007). Positioning theory and discourse analysis: Some tools for social interaction analysis. *Forum: Qualitative Social Research*, *8*(2), Art. 31.

Georgia Emergency Management Agency. (n.d.) 2014 Ready Georgia.get ready on-the go. Retrieved March 23, 2015, from http://www.ready.ga.gov/mobileapp

Harre, R. (2004). Positioning theory. Massey University. Retrieved May 1, 2013, from www.massey.ac.nz/~alock/virtual/positioning.doc

Harre, R., Moghaddam, F., Pilkerton, Cainie, T., Rothbart, D., and Sabat, S. (2009). Recent advances in positioning theory. *Theory & Psychology*, *19*(1), 5–31.

Harris Interactive. (2011). CEA executive summary. www.harrisinteractive.com

Hubbard, B. (n.d.). Civil defense: More than just duck and cover. Retrieved October 1, 2010, from http://www.military.com/Content/MoreContent1/?file=cw_cd_story.

Insurance Research Council. (2014). *New study reveals a declining trend in the percentage of uninsured motorists*. Retrieved March 23, 2015, from http://www.insurance-research.org/sites/default/files/downloads/IRC%20UM_NewsRelease_1.pdf

Kaplan, M. (2010). Why Americans aren't prepared for the next mega-disaster. Retrieved February 1, 2010, from http://www.carehelp.org/aboutus/923-hottopics/headline-news/202-why-americans-arent-prepared-for-the-next-mega-disaster.

Kurtz, C. F. & Snowden, D. J. (2003). The new dynamics of strategy: Sense-making in a complex and complicated world. *IBM Systems Journal*, *42*(3), 462–483.

Maryland Emergency Management Agency. (n.d.). OSPREY for everyone. Retrieved March 1, 2015, from http://mema.maryland.gov/Pages/OSPREYlanding.aspx

National Highway Traffic Safety Administration. (n.d.). National seat belt enforcement mobilization May 19 through June 1, 2014. Retrieved February 27, 2015, from http://www.nhtsa.gov/PEAK

National Interagency Fire Center. (2014). Federal firefighting costs: Suppression only. Retrieved March 1, 2015, from http://www.nifc.gov/fireInfo/fireInfo_statistics.html

National Oceanic and Atmospheric Administration. (n.d.). Extreme weather events 2011: Hurricane Irene, August 20–29, 2011. Retrieved March 1, 2015, from http://www.noaa.gov/extreme2011/irene.html

Nine years post- Katrina, a recovery still in progress. (2014, January 24). *The Times Pecayune*. Retrieved March 23, 2014, from http://www.nola.com/opinions/index.ssf/2014/08/nine_years_post-katrina_a_reco.html

Oskin, B. (2013). Katrina-like storm surges could become the norm. Retrieved February 22, 2015, from http://www.livescience.com/27981-storm-surge-threat-rises-tenfold

Post-Katrina: What it takes to cut the bureaucracy and assure a more rapid response after a catastrophic disaster before the House Committee on Transportation and Infrastructure, Subcommittee of Economic Development, Public Buildings and Emergency Management U.S. House of Representatives (2007) (statement Craig Fugate). Retrieved November 10, 2010, from http://transportation.house.gov/Media/file/Economic%20Development/20090727/Fugate%20Testimony.pdf

Prasad, B. D. (2008). *Content analysis*. In D. K. Lal Das, & V. Bhaskaran, *Research methods for social work* (pp. 173–193). New Dehli: Rawat.

Redlener, I., Abramson, D., Stehling-Ariza, T., Grant, R. & Johnson, D. (2007). *The American Project: Where the U.S. public stands in 2007 on terrorism, security, and disaster preparedness*. New York: Columbia University Mailman School of Public Health.

Redlener, I., Grant, R., Abramson, D. & Johnson, D. (2008). *The 2008 American Preparedness Project: Why parents may not heed evacuation orders & what emergency planners, families and schools need to know*. New York: Columbia University Mailman School of Public Health.

Role theory. (n.d.). *Wikipedia*. Retrieved February 24, 2015, from http://en.wikipedia.org/wiki/Role_theory

Russell, G. (2005, August 28). Nagin orders first ever mandatory evacuation of New Orleans. *The Times Pecayune*. Retrieved March 23, 2015, from http://www.nola.com/katrina/index.ssf/2005/08/nagin_orders_first-ever_mandatory_evacuation_of_new_orleans.html

ScrumSense. (n.d.). Picture of Cynfin framework. Retrieved March 22, 2015, from http://www.scrumsense.com/wp-content/uploads/2013/12/Cynefin_framework_Feb_2011-300x296.jpeg

Snowden, D. & Boone, E. (2007). A leader's framework for decision making. *Harvard Business Review*. Retrieved from https://hbr.org/2007/11/a-leaders-framework-for-decision-making

Snowden, D. (2005). Multi-ontology sense-making, a new simplicity in decision making. *Management Today Yearbook, 2005.* Retrieved March 2, 2015, from http://cognitive-edge.com/uploads/articles/40_Multi-ontology_sense_makingv2_May05.pdf

Snowden, D. (2012). The origins of Cynefin. Retrieved February 27, 2015, from http://cognitive-edge.com/uploads/articles/The_Origins_of_Cynefin-Cognitive_Edge.pdf

Statement before the Committee on Transportation and Infrastructure, Subcommittee on Economic Development, Public Buildings and Emergency Management (2009) (statement of J. Becker). Retrieved October 30, 2010, from http://transportation.house.gov/Media/file/Economic%20Development/20090727/Becker%20Testimony.pdf

Stop, drop, and roll. (n.d.). *Wikipedia.* Retrieved February 27, 2015, from http://en.wikipedia.org/wiki/Stop,_drop_and_roll

Tate, K. (2010, August 24). Hurricane Katrina history and numbers. Retrieved September 15, 2010, from http://www.livescience.com/environment/hurricane-katrina-new-orleans-aftermath-infographic-100824.html

Texas Division of Emergency Management. (n.d.). Public information and education. Retrieved February 22, 2015 from https://www.txdps.state.tx.us/dem/PublicInfo.htm

Unger, D. (June 27, 2013). Billion-dollar weather: The 10 most expensive U.S. natural disasters. *Christian Science Monitor*. Retrieved February 28, 2015, from http://www.csmonitor.com/Environment/2013/0627/Billion-dollar-weather-The-10-most-expensive-US-natural-disasters/Hurricane-Katrina-August-2005-148.8-billion

Be Ready Utah. (n.d.). *Be Ready Utah Guide to Personal and Family Preparedness*. Retrieved October 12, 2013, from http://www.utah.gov/beready/index.html

Washington Military Department, Emergency Management Division. (n.d.). *Prepare in a year*. Retrieved March 21, 2015, from http://mil.wa.gov/uploads/pdf/emergency-management/piy-englishbooklet.compressed.pdf

Woolsey, Matt M. (2007). America's most expensive natural disasters. *Forbes*. Retrieved November 18, 2011, from http://www.forbes.com/2007/10/29/property-disaster-hurricane-forbeslife-cx_mw_1029disaster.html

Weather Underground. (n.d.). The 30 deadliest U.S. hurricanes/tropical cyclones 1851–2006. Retrieved March 18, 2015, from http://www.wunderground.com/hurricane/usdeadly.asp

Whitehead, M. (2009). Victims or survivors. The Lion speaks, writing about the status of mass care in the nation and getting ready for the next big one. Retrieved February 15, 2015, from http://blog.thelionofbabylon.com/

Wisconsin Council of Defense. (1942). Manual for Air Raid Wardens. State of Wisconsin. Retrieved October 1, 2010, from http://www.victorysiren.com/x/airraidmanual/airraidmanual.htm#THE%0WARDEN%20AND%2OHIS%20WORK

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